ENGINEERING NEWS-RECORD

Bridge job begins in the middle p.28

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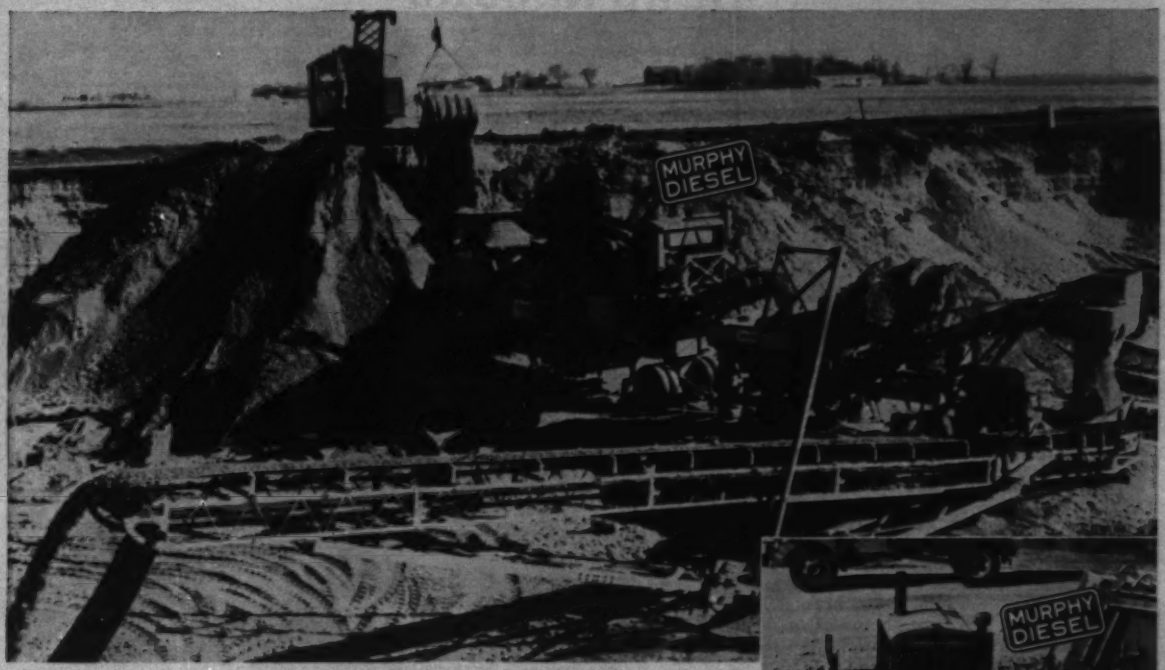

A 133 HP (continuous) Murphy Diesel powers a Cedarapids Commander crushing plant in Larson's George Pit, near Joliet, Ill. This plant produces approximately 2200 tons of road aggregate per day.

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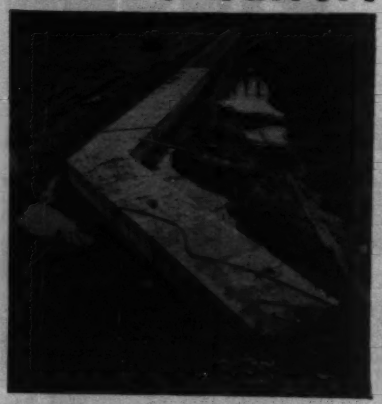

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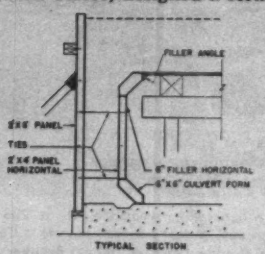
How to extend an existing culvert 492 feet to allow Mercer Slough to pass under the new Seattle by-pass of U.S. Highway 99. Also, how to finish it before rains swell the slough, or creek, to over-flowing. That was the problem faced by A. R. Anderson Construction Company, Seattle.

Anderson used Symons Culvert Forms with Symons Steel-Ply Panels. Symons engineering and their Seattle man, Hal Caffee, designed a form lay-



TYPICAL SECTION

out, so that inside wall and fillet forms could be stripped out without disturbing the shoring for the slab roof. This not only saved time but reduced by almost one-half, the material needed for the job.

The pay-off! It is estimated that it took under 200 man hours to set up and pour the job and under 60 man hours to strip the forms.

For the complete story on the *Seattle Culvert Job*, send in request on your company letterhead. Symons Steel-Ply Forms rented with purchase option.

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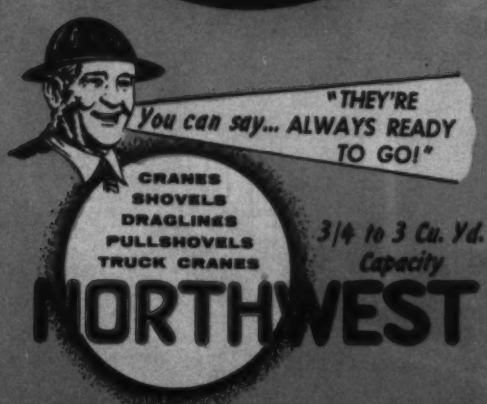

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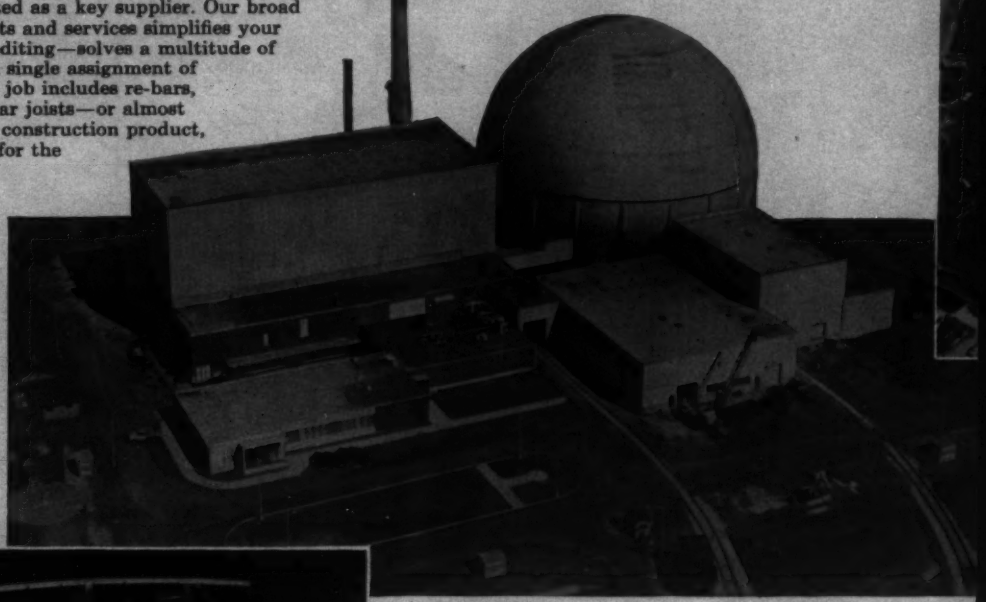
Nation's largest all-nuclear power station contains 2850 tons of re-bars from Ryerson. Foundation and shielding alone for the nuclear reactor assembly contain 22,000 cu. yd. of concrete, reinforced with re-bars from Ryerson.

Operator—Commonwealth Edison Company. Prime contractor—General Electric. Engineer-constructor—Bechtel Corporation.



Big new Seattle garage—a 10-story concrete structure—is reinforced with 1900 tons of re-bars from Ryerson. Schedule was so tight, the elevator shaft was built first to get machinery installed and running as soon as the structure was complete. 300,000 square feet provide parking for 1270 cars.

Owner—Sierra Corporation. Architect—George Applegarth. Structural Engineer—Ellison-Sedgwick. General Contractor—Utah Construction & Mining Company.

Chicago's new Exposition Center gets 3-way Ryerson service. With more than nine acres under roof, this gigantic convention hall will have over 300,000 sq. ft. of exhibition space and an auditorium seating in excess of 5000. Ryerson service includes 2200 bar joists; 15 post-tensioning cable assemblies that prestress the concrete floors; 5000 tons of re-bars to reinforce foundation, floors and walls of the entire 3-block-long structure.

Operating authority—Metropolitan Fair and Exposition Center, Inc., Chicago. General Contractor—Gust K. Newberg, Chicago. Alfred Shaw, chief architect—Carl Metz, structural engineer, Chicago.

Indiana's largest shopping center. Among the unique features of the new 55-acre Glendale Shopping Center in Indianapolis is a service tunnel—running the entire length of the center. Its 15′ concrete retaining walls are reinforced by re-bars from Ryerson—as is the center's largest building. Total re-bars from Ryerson: 840 tons.

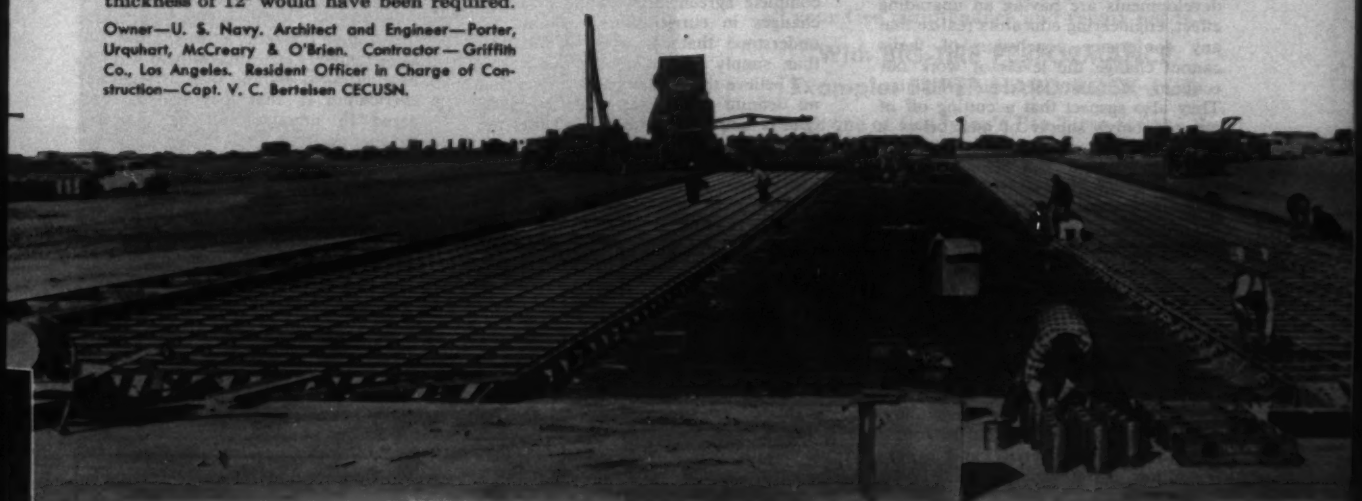
General contractor—Glendale Center, Inc. Construction agent—Inland Construction, Inc. Developers—Landau & Helman, Inc. Planning and design—Victor Gruen Associates.

One of the longest post-tensioned projects. The new Naval Air Station, Taxiway at Lemoore, California, is a 512′ x 75′ *continuous ribbon* of prestressed concrete. The complete post-tensioning service from Ryerson includes 30 tendons that span the entire 512′ length and 205 tendons that run the width. Concrete is 6″ deep at the 312′ x 25′ center section—tapers to 9″ at edges. If concrete had not been prestressed, uniform thickness of 12″ would have been required.

Owner—U. S. Navy. Architect and Engineer—Porter, Urquhart, McCreary & O'Brien. Contractor—Griffith Co., Los Angeles. Resident Officer in Charge of Construction—Capt. V. C. Bertelsen CECUSN.

Nation's longest post-tensioned concrete span is the 320′ center span of the Oneida Lake Bridge near Brewerton, New York. The post-tensioning "package" supplied by Ryerson included more than 1000 tendon and anchorage assemblies.

Owner—State of New York Department of Public Works (C. F. Blanchard, deputy chief engineer, bridges). Engineers—Summers, Munninger & Molke, Albany, N. Y. General contractor—all construction work performed by Terry Contracting, Inc., Long Island City, N.Y.



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On Educating Civil Engineers

SIR—The postponement of any clear-cut conclusion by the conference of civil engineering educators (ENR July 14, p. 32) was caused, may I suggest, by a more basic reason than either "a confusion of parliamentary procedure" or the lack of time for general discussion and study of last-minute resolutions (which even the excellent preliminary planning could not anticipate).

Like it or not, we must recognize that engineering education will remain different in some respects from education for the other professions. Usually the layman approaches the doctor, lawyer, or minister directly for professional services. Thus, each must be equipped to cope with any professional problem ranging from the most routine to the most complex, and rigid minimum standards for education of these professions are necessary.

But almost all engineering work is assigned or referred to engineers by other engineers (or quasi-engineers). With this system, men with varying abilities and with from zero to eight years of engineering education can be efficiently utilized in an organization's engineering work.

We must admit that under this hierarchic system, the individual's work has tended to become so routine that most engineering work still demands an educational background of three years or less, as many frustrated four-year graduates testify.

The point is that, although modern developments are having an upgrading effect, engineering educators realize that any conference conclusion of theirs cannot change the levels of work our economy demands of their graduates. They also suspect that a cutting off of our economy's supply of men below a five or six-year educational level would be a sociological and economic folly which the advantages of a universal, uniform professionalism would not begin to outweigh.

In rough analogy, should a conference of contractors, trying to upgrade building construction, pass a resolution favoring buildings costing $5-million or more and gradual elimination of construction of $4-million buildings?

Basically, the question before the conference was not what single mold engineering education should be forced into—only with diversity and experimentation can it supply society's vast range of needs. It was rather a question which should be answered by the whole profession: to what level in the hierarchy of engineering work should the line for professional recognition be raised?

With this question answered, educators must be sure that they have raised educational opportunities correspondingly for students with ability to profit therefrom. It was to this end that the possibly most significant proposal of the conference, advocated somewhat independently by five participants, was directed—a proposal for the general establishment of graduate professional schools with programs, certified by the professional society, leading to the professional resident degree of D. Eng. Probably the future will say that this proposal alone, if implemented, was enough to justify the conference.

H. A. SAWYER, JR.
Professor of Civil Engineering
University of Connecticut
Storrs, Conn.

SIR—I have just read your very excellent editorial upon the subject of educating civil engineers. Your comments upon the recent meeting at the University of Michigan were thought-provoking. Yet as I read it I felt that perhaps I could give some background information concerning this meeting which might explain why final action was not taken.

As an engineering educator I have been studying these problems for some time and am well aware of the theme for this conference. Although illness prevented me from attending, I served as chairman of a similar smaller conference at the Columbia, S.C. meeting of the Southeastern Section, ASEE, in April. This was a panel discussion, and I can assure you that there was not complete agreement with the proposed changes in curriculum. It should be understood that far more is involved than simply adding another year.

I believe the fundamental reason that no definite action was taken in Michigan is simply that many educators are not convinced that any such drastic change is necessary or wise. Perhaps the reason that the conference planners gave "too soft a sell" is that many of them are not completely sold on the idea themselves. All realize that changes in curriculum have always been made to meet new requirements, but is this drastic change the answer?

For example, at our Columbia meeting, several prominent educators stated emphatically that they could not see why our present curriculum is being criticized so much. They stated that industry expressed complete satisfaction with their graduates, and that they made excellent progress in graduate school. From the results of the meeting in Michigan it is obvious that others felt somewhat the same.

I understand that this series of conferences started largely due to concern over lack of competent students in civil engineering departments. It was felt that better students would be attracted if the curriculum was changed. I wonder if this is not approaching the matter from the wrong direction. A curriculum should be arranged to give a man that education and training which he will need to pursue his profession and take his place as a citizen. The big question should be whether or not our graduates are able to do this. In spite of some adverse comments, many believe that they are able.

We hear much of the greater education requirements for the space age. I wonder how many Civil Engineers will be working in the near future on entirely new types of work? Will not most of them be working on the same general type of problems as exist today? Furthermore, it has been my experience that industry often overstates its requirements; often firms require men with graduate degrees to do quite routine work. Also, men from industry disagree as to the need for drastic curriculum changes.

Why are competent students often choosing other fields? This is due to the simple fact that fields of science and perhaps electrical engineering have been so glamorized by recent developments that many people have forgotten the critical importance of the civil engineer, and many believe there is no future in this field. Therefore, let us go to the public and show them that the field of civil engineering is just as critical and important to the welfare of our nation as any other field. If necessary, even show them that our work has a little glamour to it also. Such action as this also should help erase the salary differential now existing between civil engineers and other branches. If we do this, better students will come to civil engineering, since their chief concern is with their life after school. Let us make them want to be civil engineers and then arrange our curriculum so that they will be prepared to practice and be desirable citizens.

I agree with you that the meeting had far too many formal papers and prepared discussions. In addition it was too large in numbers for constructive work. I believe smaller regional conferences would have been better. I am delighted that the resolutions will be voted on by mail; all too often mass psychology at a meeting causes voting without thinking.

L. K. HIMELRIGHT, LT. COL.
Head, Dept. of Civil Engineering
The Citadel
Charleston, S. C.

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For details on this and other Goodyear special-duty tires, and the Goodyear Contractor Service, see your Goodyear dealer. Or write Goodyear, Truck Tire Dept., Akron 16, Ohio.

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HOW TO SAVE $50-75 DAILY, SPEED CUSTOMER SERVICE

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The gravel company owner reports: "Our new plant helps us save $50-75 on the 500-1,000 tons produced daily. Now we doze material directly from bank to trap and save 10-15¢ per ton handling costs. We've speeded customer service, too, by being able to load out 10-ton trucks in 60 seconds. And the consistent accuracy of clay-gravel mix obtained by our dozer blending through the trap feeder gives us a competitive advantage that has brought in considerable new business."

Here's why your Barber-Greene Distributor can match this new plant to your needs: capacities— 155, 270, 430 and 630 tph . . . belt widths—18, 24, 30 and 36″ . . . conveyor lengths—42 and 48′ . . . single deck screen sizes—36, 42 and 48″. Get this rugged plant with exclusive Vibra-Spring screen suspension and save money and time producing sized aggregates.

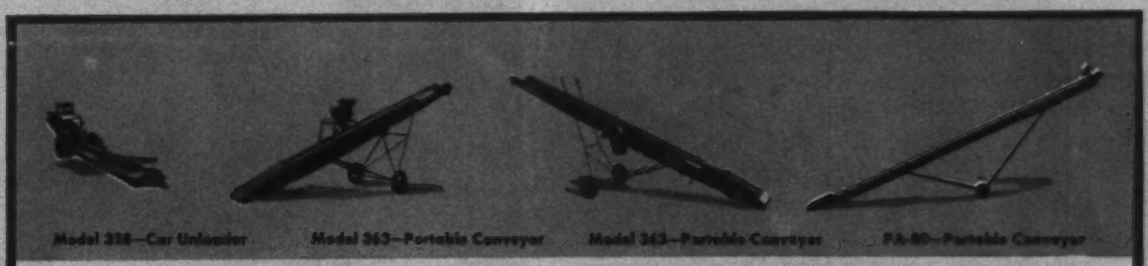
Heavy-duty portables cut stockpiling costs

J. P. Hollerich & Co., LaSalle, Ill., paving contractors, save time and money unloading and stockpiling aggregates for asphalt operations by teaming two portable Barber-Greene units, a 358 Hopper Car Unloader and a 24″ x 66′ PA-70 Conveyor.

Plant Supt. F. J. Funfsinn and Gen. Supt. John F. Livec relate: "Our Barber-Greenes give us the dependable high-capacity performance we need to keep our plant operating at top capacity. The unloader-portable conveyor team has unloaded 65,000 tons of ¾″ stone and sand at 120 tph, and we empty and stockpile 56 tons of rock from a car in just 30 minutes."

Highly-portable Barber-Greene 358 Car Unloader and truss-type PA-70 Portable Conveyor are shown unloading sand for Hollerich's Barber-Greene 894 Batch-Omatic plant located at Atkinson, Ill.

The Beeman-owned PS-70 plant has a 36" belt and a double loop Vibra-Spring screen suspension that puts 35% wet clay over the screen without blinding. This exclusive feature also doubles the shock resistance and life of vibrating mechanism parts.



Model 358—Car Unloader Model 363—Portable Conveyor Model 363—Portable Conveyor PA-80—Portable Conveyor

Barber-Greene portables for every requirement

Barber-Greene's portable materials handling equipment line includes seven truss and channel frame Portable Conveyors plus the 358 Car Unloader. Biggest of the truss models is the PA-80, available in 69, 75 and 81′ lengths, available with torque-arm or line shaft drive. Other heavy-duty truss models, all in lengths from 33-60′, include PA-70 (torque arm drive), PB-70 (V-belt drive) and PC-70 (line shaft drive). Model 363 tops the channel frame line and is offered in 25, 30, 35, and 40′ lengths. Model 362 is available in 20, 25 and 30′ lengths. All are precision built and completely portable.

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New Portable Conveyor Bulletin tells how these rugged units can cut your handling costs, shows how to select the correct models for every requirement, and includes full information about each conveyor in the complete Barber-Greene line. Ask for your copy today.

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How to put a culvert to bed

(and keep it there)

One of the best things about installing Corrugated Steel Drainage Structures is the fact that an elaborate foundation is not needed. If you're laying Corrugated Culverts for roadway drainage, usually all you have to do is to smooth the grade line and straighten the channel alignment. Forget about forms and curing time; Corrugated Steel Culverts can be rolled or lowered quickly into place, back-filled, and forgotten.

Here are a few things to remember: the load-supporting capacity of a Corrugated Steel Structure depends on its foundation and the manner in which it is bedded. The foundation should be free of projecting stones, roots and debris. Corrugated Steel Culverts need not be encased because this would hinder one of Corrugated Steel's big advantages—flexibility. Back-fill should be kept clean, too, and well tamped until it reaches a minimum of ¾ of the height of the pipe. Tamping above this height is not necessary.

Quick, economical installation is just one advantage of Corrugated Steel Drainage Structures. They cost less, are free from upkeep and repair, and they're built to *last*.

Send for U. S. Steel's free booklet on Culvert Sheets for Metal Drainage Products. It tells all about design, sizes and weights, installation and other valuable engineering details. Write today, to United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

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Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
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United States Steel

This mark tells you a product is made of modern, dependable Steel.

LUBE LOGIC Five tips to

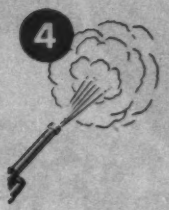
Texaco "lay-away plan" protects exterior of idle equipment

Equipment that won't be needed for a while is sometimes simply parked somewhere so nobody will fall over it. Well and good, but not enough—because rust and corrosion account for almost half of what you spend on equipment maintenance. Here's a 6-step program that will keep idle equipment in cracker jack shape no matter how long it's out of use, or where it's stored. The basic ingredient is Texaco Rustproof Compound L—a remarkable product that keeps rust from starting, and acts to loosen rust that's already on the equipment.

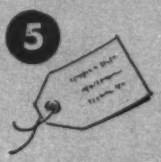
Before applying Texaco Rustproof Compound L, make sure all exterior surfaces are clean and fairly dry.

Coat all adjustment bolts and other exposed threads with Rustproof Compound to facilitate removal or adjustment.

At temperatures of 65° or more, Texaco Rustproof Compound L can be applied to smooth accessible surfaces by brushing.



At temperatures below 65°F, or for inaccessible and complicated areas, spraying is the best way. You can thin the Rustproof Compound to a sprayable consistency by adding naphtha to form a 10 to 50% solution. Add the naphtha slowly to the compound and stir vigorously so the whole batch is the same consistency.



Apply tags at conspicuous points on the equipment describing the rustproofing measures that have been taken.

Thoroughly lubricate all equipment before storage.

Starting up equipment after storage

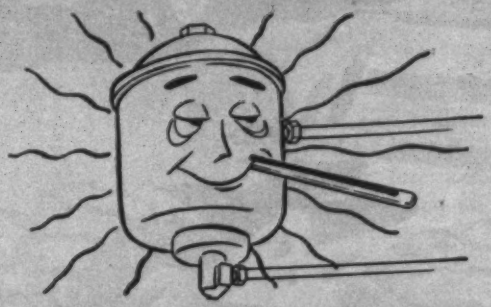
In most cases it's not necessary to remove Texaco Rustproof Compound L. You should, however, remove it from surfaces that will come into contact with personnel (such as ladders, seats and handles) and from surfaces that are heated to high temperatures when the equipment is operated.

Since Texaco Rustproof Compound L is *not* a lubricant, all working surfaces and lubrication fittings should be wiped clean before use, and the correct lubricant should be applied before starting up.

Thicker oil won't stop gear-case drooling

You can't fix leaking seals on a gear-case simply by switching to a heavier-grade gear lubricant, because in gear cases carrying heavy loads, the thicker oil simply increases gear-case temperature, which thins out the oil and it starts leaking again. Sometimes, however, foaming and leaking of gear-case lubricant indicates that the oil level is too high. By keeping vents open and keeping the oil at the recommended level, you prevent build-up of pressure which would cause leakage.

trim maintenance costs



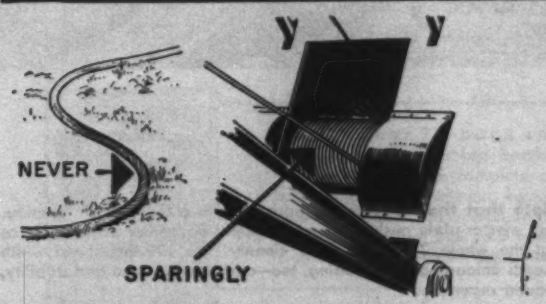
A filter that's working runs a temperature

Oil filters last so long these days it's sometimes hard to say when they were last changed. But they're so important to engine performance that it's essential that you know whether they're too full to filter right. Here's a simple way to find out.

A filter that's working will be as warm as the engine oil. If the filter on a fully warmed-up engine remains cool to the touch, it's a safe bet that it's too clogged up to let any oil through. Just to double-check, tap the filter case sharply. A metallic ringing sound means the cartridge is still in good shape. A soggy thud often means that the filter is loaded. Top mileage for even the best filter is 6,000 miles, never more.

Crawler treads are happier dry

There are few places where good lubrication is more important than in track-roll bearings, but make sure you don't lubricate the crawler treads themselves in a burst of enthusiasm. The pins that connect the links of crawler treads are designed to operate without lubrication, because dirt or other abrasives would act as a lapping compound in service. Result: much shorter service life for the track. Moral: if you don't want to lap your crawler link pins, don't oil them.



How often should you lubricate wire rope?

How much lubrication is good for wire rope and cable depends mainly on how it's used. Cables that are dragged in dirt shouldn't be lubricated at all. Oil simply holds the dirt where it can work into the strands and cause rapid wear. Cables that are wound on drums equipped with clutches should be lubricated sparingly to prevent fouling the clutch faces with lubricant. With other wire ropes, apply Texaco Crater A every 10 to 100 hours as necessary to avoid dryness. Be sure to clean the rope before adding new lubricant.

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Every month or so we'll bring you a batch of "sleepers," little angles, so easy to overlook, where big savings in money and time can be made. But month in, month out, your local Texaco Lubrication Engineer is the best source of money-saving lubrication ideas. Don't forget that "Lubrication is a major factor in cost control."

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With the planet-powered 230-hp TD-25 pushing—and with 375 high-torque International Diesel hp under the "295's" hood—you heap on 34-cu. yd. with amazing new speed. Even in toughest loading conditions, "X"-member reinforcing maintains perfect Payscraper push-frame alignment!

Note that the Payscraper apron lifts to a big 94-inch opening. Two ejector-plate pushing members apply dozer-like action to force out the whole 34-cu. yd. load cleanly. The 122-inch bowl width speeds unloading, and loading, too—adds control ease and stability, loaded or empty.

How Payscraper* power and power controls boost your dirt-on-fill delivery!

You get highest power-to-payload punch of all rubber-tired rigs in the 34-cu. yd. International 295 Payscraper. The fast-slugging, high-torque 6-cylinder International DT-817 Diesel is the Payscraper power plant.

The direct-start, 375-hp DT-817 is turbocharged to give you all-altitude, high-efficiency performance—power for cycle-speeding rim-pull—plus time-saving "no-lag" control power!

You power-shift the Payscraper, up or down—and the 4-speed planetary-type, torque-converter transmission provides load-speeding *automatic* direct-drive lock-ups in second, third, and fourth gears!

You power-steer the 150,000-lb. loaded Payscraper almost as easily as a 3,600-lb. automobile. Payscraper gives you the big control advantages of (1), exclusive International rack-and-pinion plus tandem pump steering system; and (2), 3-degree forward spindle pitch that improves scraper balance and prevents "nose-downs" in high-speed turns!

You power-control Payscraper dirt-handling actions with fingertip ease with the International PTO-driven Cable Control Unit. One cable drum of this simple planetary system actuates the apron and ejector; the other drum positions the bowl to control loading and spreading! Reach-easy Payscraper power brakes give you fast, positive stopping!

Ease into the bump-smothering Payscraper seat—press the direct-start button—power-shift the outfit into action. Compare the speed of loading, roading, and dumping the 122-inch bowl. See how the advantages of DT-817 Diesel power and complete, positive Payscraper power control can boost your dirt-on-fill delivery. Choose the 2-axle "295," or 3-axle, 34-cu. yd. "495." See your International Construction Equipment Distributor for a demonstration!

Here's your 76-page cost and production estimating book—newest, most authentic and complete guide for estimating material-moving costs—and for selecting equipment combination for top profits, *anywhere!* See your International Construction Equipment Distributor!

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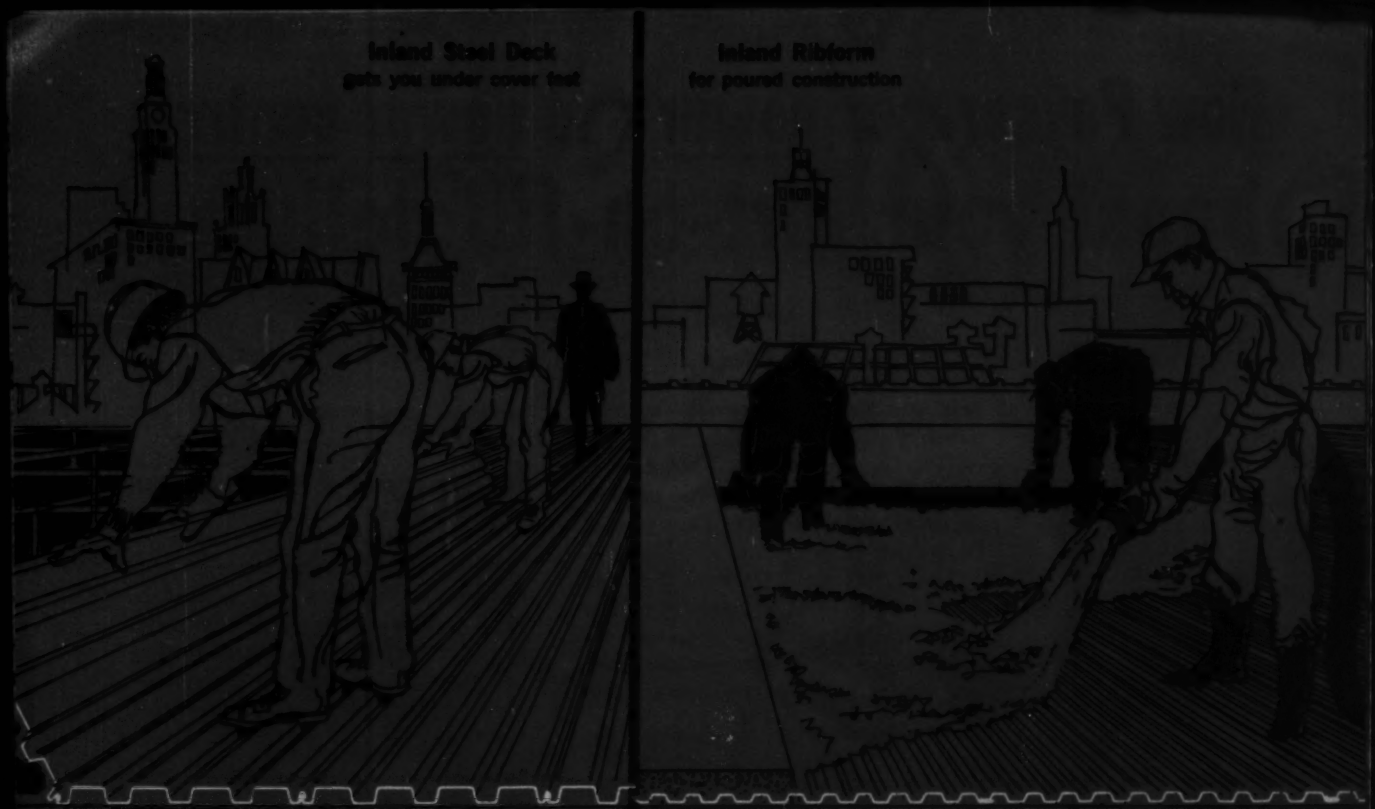
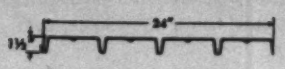
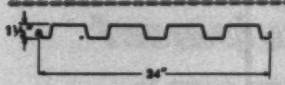
Positive power-control of all operations adds safety, builds operator confidence — makes him "haul-speed minded" to help you get full capacity and profit from Payscraper speeds up to 33.5 mph. For example, safe, effortless tandem-pump power-steering leaves "the steering feel in the steering wheel"—gives positive, one-hand control!



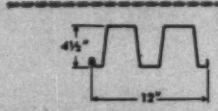
Steel deck or centering...you name it, INLAND has it!



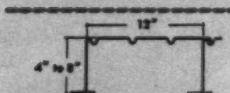
A-DECK — For purlin spacings not exceeding 8'4". Narrow ribs provide deck surface that supports the thinnest or softest types of insulation.



B-DECK — For spans to 10'0". Wide rib distributes metal for greater structural efficiency. Well suited for use as side wall panels.



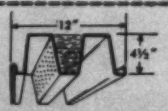
C-DECK—Carries normal roof loads over spans up to 24'0". Used extensively in canopies.



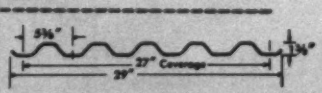
T-STEEL — New! Galvanized only. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to resist seismic and wind loads.

H-DECK — New! For simple spans to 20'0" — 3" and 4½" depths. Especially practical to cover walkways in shopping centers, schools, other installations.

B-ACOUSTIDECK — Two-in-one panel combines steel roof deck with acoustical ceiling having Noise-Reduction Coefficient of .70. Used for spans to 10'0".



C-ACOUSTIDECK — Offers same Noise-Reduction Coefficient as B-Acoustideck. Can be used for spans to 24'0".



RIBFORM — High-tensile, galvanized steel form for concrete slabs over spans up to 8'0". Three types: Standard, Heavy-Duty, Super-Duty (shown).

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In concrete-over-steel construction, Inland Ribform supports wet concrete with minimum deflection. Rigid sheets are quickly and inexpensively attached to supports — in place, they provide a safe work platform for crews.

Write for catalogs 240, 241, and 245 — see Sweet's sections 2c/Inl, 11a/In, and 2a/In. For help on unusual problems, you can draw on the diversified experience of Inland sales engineers. Write or call your nearest Inland office.

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THE CONSTRUCTION WEEK

WORLD'S BIGGEST GENERATOR—The Tennessee Valley Authority is outstripping itself in generator sizes. With 650,000-kw steam-turbine generators already under construction for its Paradise, Ky., plant, the agency has now announced preliminary plans for an 800,000-kw unit. No plant site has been picked yet, but locations have been studied on the Cumberland and Clinch rivers.

BASEBALL UNDER COVER—If the Dallas-Ft. Worth area and Houston get a major league baseball franchise, both Park Boards will build air-conditioned stadiums with dome roofs. The domes, made of aluminum or plastic, will be 700 ft in diameter and have a rise of 180 ft. Estimated cost of the Dallas-Ft. Worth stadium, for which revenue bonds have been voted, is $9.5 million and of the Houston stadium, $15 million.

HELP WANTED—An engineer of Lebanon's Litani River Authority is interviewing U. S. engineering and construction firms—he's looking for a construction management team to oversee the work on Karaoun Dam and the Awali Tunnel. An inflow of sand has filled nearly two miles of the tunnel.

WET BLANKET—A "no" vote on California's $1.7-billion water development bond proposal is recommended by the California Labor Federation, AFL-CIO, but not unanimously—some building trades unions are in favor of the measure.

YOU CAN'T WIN—A $4-million surplus in Virginia's highway fund and a lowering of the state's Interstate cost estimate by $315 million have brought a demand for reducing the state's seven-cent-per-gallon gas tax. The Virginia Petroleum Industries Committee calls the surplus and the lower cost estimate "shocking examples" of how the department "overestimated its needs and underestimated its funds."

BAIT FOR BIDDERS—Ghana is offering up to $7,000 to help prospective bidders on the Volta River hydro project study the site. Bids on the first part of the project will be invited shortly from a limited number of approved contractors. But plans for the project still hinge on unraveling the electric-rate tangle, which has snarled financing (ENR Aug. 25, p. 82).

AS GOOD AS GOLD—The residue of bygone gold mining operations is turning to pay dirt for American Mining Development Co., Houston. Millions of tons of washed gravel left behind by placer miners near Oroville, Calif., are being recovered for use on the multi-dam Feather River Project. A second washing will net some byproduct gold but the gravel deposits, less than two miles from the proposed Oroville Dam, are considered more valuable than the gold recovered previously.

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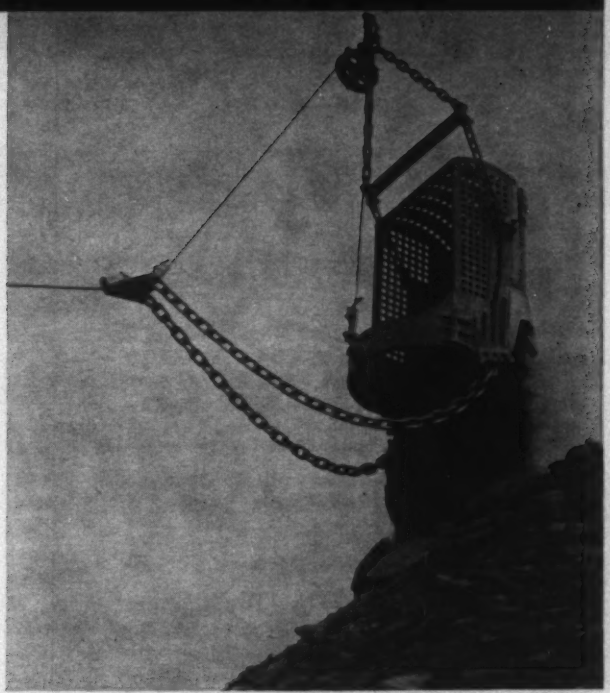

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¼ to 40 Cubic Yards-Perforated or Solid

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WASHINGTON OBSERVER

- 'Jim Crow' to go?
- Crackdown brings speedup
- Blatnik eyes three states
- Boiling water reactor coming

● **GSA Administrator Franklin Floete is still trying to end "Jim Crow" hiring on government building contracts.** The latest move: an order to Matthew H. McCloskey, prime contractor on a federal office building in Washington, to see that his electrical subcontractor, Howard P. Foley Co., hires a licensed negro electrician, who Mr. Floete says, is qualified but has been turned down twice.

Mr. Floete gave McCloskey 10 days to end this violation of the no-discrimination contract clause. His letter to the contractor didn't mention contract cancellation, but this threat hangs in the background.

—

● **The feeling in Washington is that the Pentagon's campaign to get the lag out of missile base construction is getting results.** The word is that the threat of a drastic shakeup from Washington has had its effect clear down the line, even to the builders and workers on the jobs. The new Army Engineer chief in charge of missile base construction, Brig. Gen. Alvin C. Welling, is making his authority felt (see story, page 22).

One result of this feeling that things are shaping up is the delay in the issuing of the Labor Department's criteria for disputed work at missile bases. It appears that many officials, who had been hoping all along that they could avoid issuing the proposed "general criteria," now feel more confident that future disputes can be settled on a job-by-job basis.

—

● **New Mexico, West Virginia and Florida will be the next targets of Rep. John Blatnik's highway investigating subcommittee.** The subcommittee has decided to concentrate on these states at hearings to get under way after the presidential election. At least one—and perhaps more—of the hearings will be held between election day and the new session of Congress, beginning in January.

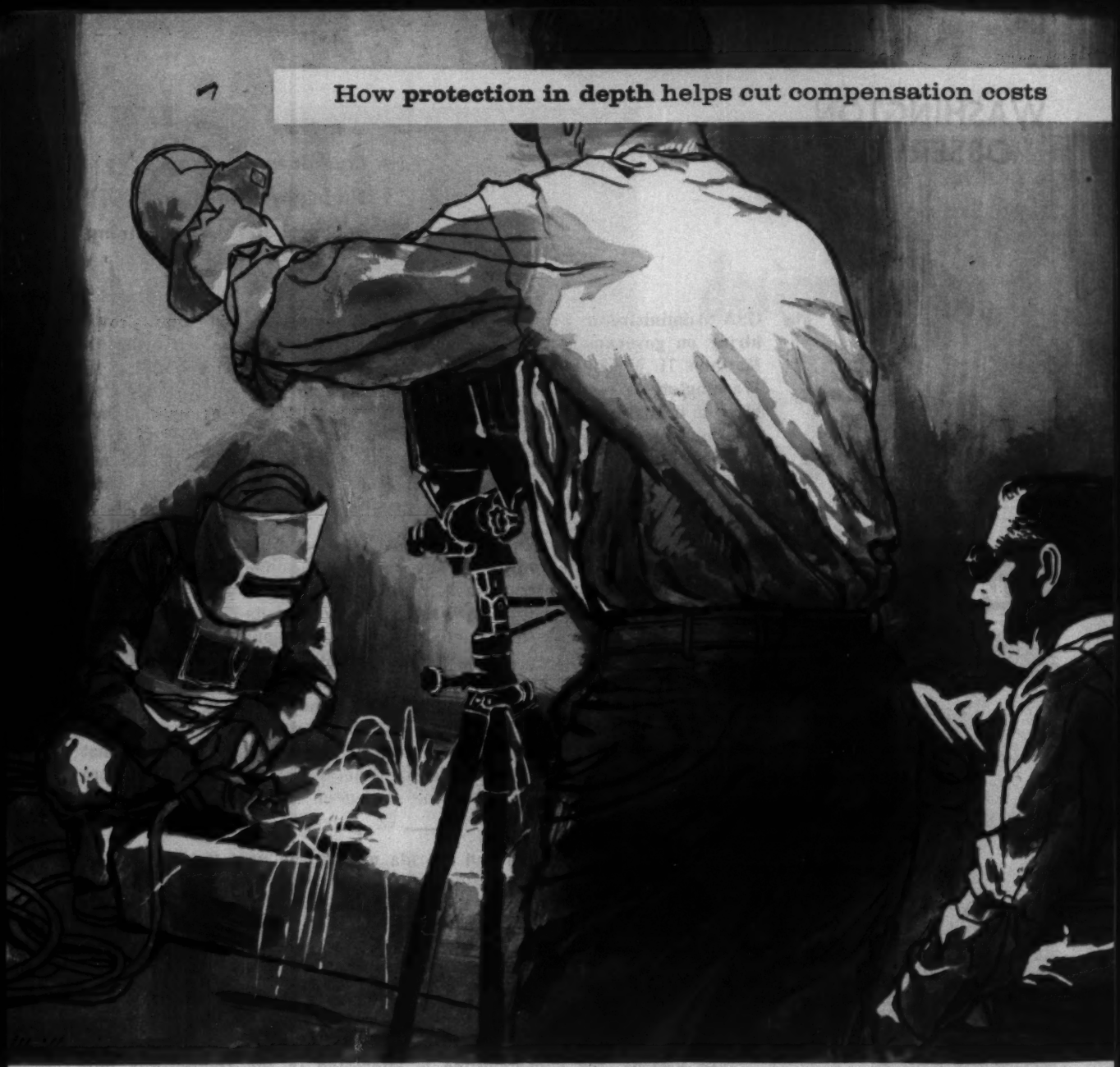
In New Mexico and West Virginia, Representative Blatnik says, staff investigators have uncovered evidence of faulty construction and "deficient and inadequate" inspection on portions of the Interstate system.

In Florida, the subcommittee is interested in the right-of-way purchase program. Representative Blatnik says "a rather substantial problem" exists in Florida's acquisition methods but that it is by no means certain any fraud is involved.

—

● **Construction should start soon on a big West Coast nuclear power reactor for Pacific Gas & Electric Co.** The proposal, for a 50,000-kw boiling water reactor at Humboldt Bay near Eureka, Calif., will apparently clear its biggest hurdle—no objections to the safety design of the proposed plant were raised in Washington hearings last week.

At issue is a new type of containment design, called "pressure suppression." General Electric Co. and PG&E propose to replace a high-cost, thick-metal containment shell design to handle any accident involving escaping steam for the reactor's system. The new design would quench escaping steam in built-in water pools, which would be much less expensive to build than the containment shells.



Reducing accidents by filming the hazards

Sound slide films are great for teaching people. Like teaching safe practices to workers, from welders to sales clerks, from machinists to loggers. More than 500 such training films have already been produced by Liberty Mutual to help policyholders reduce on-the-job accidents and losses. Each film is custom made, using policyholder personnel and facilities in the pictures. This is but one of the many Liberty Mutual services that add up to protection in depth. For more facts about Liberty's protection in depth and how it can help you lower your business insurance costs, get in touch with your nearest Liberty Mutual office.

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Congress Gives Up and Goes Home

The special session of Congress, which Democratic leaders arranged to "finish the people's business," turned out to be a complete dud as far as the two big construction bills—housing and school construction—were concerned. Between them, there is a couple of billion dollars worth of construction.

These were two of the four big bills Congress came back to Washington to finish up, the other two being minimum wage and medical aid for the aged. But as Congress worked frantically to get out of town and back to the campaign hustings, the omnibus housing bill was buried deep as was school construction bill.

The housing bill, in fact, was written off before Congress even reconvened. Democratic leaders, fearing that Republicans would try to attach an anti-discrimination clause to public housing and create a schism in Democratic ranks, decided to forget the whole thing. The bill containing big boosts for urban renewal, college housing and FHA financing for private housing was left for dead in the House Rules Committee.

The same committee, dominated by the old GOP-Southern Democrat coalition, was apparently killing off the school construction bill too. Both Senate and House had passed bills providing about $1 billion in federal matching grants, and the differences were not too difficult to compromise. This was the closest Congress had ever come to passing a school construction bill.

The next session of Congress is certain to attack these two measures again. Either a Kennedy or Nixon administration would lend more support to these measures; both candidates are pledged to action on housing and schools.

A significant move to cut the power of the House Rules Committee is also expected in the 87th Congress. Northern Democrats have already promised to weaken the committee's traditional hold on "liberal" legislation by inflating the membership with liberal appointees or passing a 21-day rule limiting the time the committee may sit on a bill.

Attempts to curb the powers of the committee have failed before, however. Success would probably depend on the strength of the Northern Democratic contingent after election day.

(*Turn the page*)

What Congress did and didn't do . . .

The bill—	What happened to it
School construction aid	House Rules Committee blocked a conference on bill passed by House and Senate.
Sewage treatment plant construction	Ike vetoed a bill doubling funds.
On-site picketing	Senate Labor Committee held it from a floor vote.
Military construction	Passed, with reductions of about 20% from Ike's request.
Public works	Appropriated record $930 million for Corps of Engineers; $280 for BuRec; and money to start two major dams (see p. 22).
Tax break for self-employed	House passed but Senate killed a bill that would aid self-employed set up retirement plans.
Depressed areas	Ike vetoed $250 million in loans and grants.
Minimum wage	Compromised on a bill setting $1.15 minimum; extending coverage to 1.4 million workers.
Fannie Mae special assistance	Buried by House Rules Committee.
Urban renewal	Buried by House Rules Committee.
Housing for elderly	Buried by House Rules Committee.
Community facilities	Buried by House Rules Committee.
College housing	Buried by House Rules Committee.
FHA (Add $4 billion on mortgage insurance; lower down payments; central mortgage bank).	Buried by House Rules Committee.
Highways	Congress approved $925 million for ABC system.
Gas tax increase	Killed by House Ways and Means Committee.
Government buildings	Added $172 million for new construction.
Hospitals	Appropriated $185 million for Hill-Burton.
Airports	Appropriated $126 million for construction.
AEC	Appropriated $213 million for plant construction and acquisition.
TVA	Appropriated $20 million for construction, to which TVA is adding $180 million from revenue bonds and power earnings.
Bonneville Power Administration	Appropriated $19 million for construction.
Southwestern Power Administration	Appropriated $1.3 million for construction.

The best construction news to come out of Congress was the big appropriation for public works.

House-Senate conferees this week worked out the final version of a $1.4-billion public works appropriation that includes starting funds this year for more than 100 new projects: 54 by the Corps of Engineers, five by the Bureau of Reclamation (plus 11 by local irrigation districts), two by TVA, and 35 by the Atomic Energy Commission.

River and harbor and flood control activities of the Army Engineers get the largest appropriation in history, nearly $930 million. The bulk of this money goes to pay continuing costs on contracts already under way. Only minor amounts are appropriated to cover first-year expenditures on new Corps projects that will cost some $800 million to complete.

Reclamation receives $280 million for this fiscal year, up $24 million from last year. Included are funds to permit the Bureau to initiate construction of five projects that will cost $180 million to complete. The bill also provides initial loan funds for construction of 11 local projects costing more than $18 million.

TVA will start two new projects with $4 million each allotted to them in a $20.5-million appropriation that comes to the agency. This federal appropriation, however, covers only a small part of TVA's fiscal 1961 construction program. The remainder of this year's $180-million construction outlays will be financed by sale of revenue bonds (authorized last year by Congress) and by power earnings.

One of TVA's new starts, Melton Hill Dam and Reservoir, may be the agency's last hydroelectric plant. Unconfirmed reports say comparative studies of hydro and steam power incline TVA management strongly toward the latter for future plants.

A construction appropriation of $21.3 million to the Atomic Energy Commission will pay the total cost of a long list of newly authorized projects, ranging from less than $1 million to $25 million or more in size. Three of the projects, although allocated a total of $18.5 million this year, will need some $30 million more in the future.

Action by the House and Senate considerably expanded the list of new construction starts that President Eisenhower approved for fiscal 1961. The President in January abandoned his no-new-start policy and recommended 31 new projects for the Army Engineers and six for the Bureau of Reclamation. The House deferred a couple of these and added five of its own, and the Senate then approved the addition of some 30 more. Nine of these were deleted by the conferees, leaving 60 new starts.

Water Projects Construction Money

(ALL FIGS. IN THOUSANDS)

CORPS OF ENGINEERS

Construction, General	706,491
Mississippi River Flood Control	71,896
Total, Army Civil Works	778,388

BUREAU OF RECLAMATION

Construction	166,444
Upper Colorado R. Basin	61,400
Total, Reclamation Works	227,844

MAJOR CONSTRUCTION STARTS

CORPS OF ENGINEERS	Est. Total Federal Cost	Initial Const. Approp.
Milwood Res., Ark.	$54,400	$500
Port Everglades Harbor, Fla.	8,330	750
Milford Res., Kan.	60,600	500
Baltimore Harbor, Md.	30,000	2,000
Salt Creek Flood Control, Neb.	17,200	412
Broken Bow Res., Okla.	10,700	500
Green Peter Res., Ore.	64,000	1,400
Maxwell Locks & Dam, Pa.	32,200	1,400
Fox Point Barrier, R. I.	11,426	800
Houston Ship Channel, Tex.	10,200	1,240
Lower Monumental Lock & Dam, Wash.	151,000	1,000
Opekiska Lock & Dam, W. Va.	24,100	500
BUREAU OF RECLAMATION		
Vale Project, Ore.	$3,210	$173
Lower Rio Grande, La Feria Div., Tex.	5,738	500
Almena Unit, Kans.	15,121	1,000
Yellowtail Dam Unit, Mont.-Wyo.	107,491	2,500
Upper Colorado R. Basin:		
Curecanti Unit, Colo.	44,872	1,400
Florida Poject, Colo.	10,547	750

MAJOR CONTINUING PROJECTS

CORPS OF ENGINEERS	Amount in Bill
Walter F. George Lock & Dam, Ala. & Ga.	$20,178
Los Angeles County Drainage, Calif.	13,100
Central and Southern Florida, Fla.	11,500
Hartwell Res., Ga. & S. C.	21,375
Tuttle Creek Res., Kan.	16,500
Barkley Dam, Ky. & Tenn.	17,100
Capt. Anthony Meldahl Locks & Dam, Ky. & Ohio	15,000
Markland Locks and Dam, Ind., Ky. & Ohio	12,600
Great Lakes Connecting Channels	30,000
Delaware River, Pa. & N. J.	11,700
Eufaula Res., Okla.	20,700
Keystone Res., Okla.	17,400
Cougar Res., Ore.	12,300
Hills Creek Res., Ore.	10,500
John Day Lock & Dam, Ore. & Wash.	33,344
Big Bend Res., S. D.	10,000
Oahe Res., S. D.	53,500
Waco Res., Tex.	11,000
Ice Harbor Lock & Dam, Wash.	30,000
Ark. River Bank Stabilization	2,000
BUREAU OF RECLAMATION	
Central Valley Project, Calif.	61,278
San Angelo Project, Tex.	11,000
Missouri R. Basin Transmission System	24,415
Flaming Gorge Dam, Utah-Wyo.	12,000
Glen Canyon Dam, Ariz.-Utah	23,535
Navajo Project, Colo.-N. M.	11,776

For missile base building . . .

Only Prequalified Bidders Need Apply

Invitations to bid for prime construction contracts on future intercontinental ballistic missile bases will go only to contractors on a special Corps of Engineers roster of qualified bidders.

The new restriction was revealed in a memorandum sent last week from Lt. Gen. E. C. Itschner, Chief of the Corps of Engineers, to Brig. Gen. Alvin C. Welling, commander of the new Corps of Engineers Ballistic Missile Construction Office, (CEBMCO) Inglewood, Cal., and to all division and district engineers offices. The roster of bidders will be set up shortly.

In a follow-up memo, General Itschner authorized General Welling to "establish the criteria for determining the qualifications" of bidders and to compile the list of "acceptable" companies.

The decision to screen bidders represents a compromise between (1) the present system of open advertised bidding under which prime awards are made to low bidders, and (2) the Air Force's proposal that the formal bidding scheme be replaced by a system of negotiating contracts with a limited number of contractors qualified to bid on the work.

The new policy will go into effect this fall when bids will be invited for construction of Titan II missile installations at Davis-Monthan Air Force Base, Tucson, Ariz.; McConnell AFB, Wichita, Kan.; and Little Rock AFB, Little Rock, Ark.

New prime contracts for upcoming ICBM bases won't be limited to companies already building missile bases, says a Corps of Engineers spokesman. Contractors don't need ICBM base experience to get on the approved list.

The new prequalification procedure will apply only for prime contracts, but the Corps of Engineers will screen subcontractors for the primes more rigidly than it did before.

Such factors as a construction company's capital resources, its performance record on previous Army Engineer projects, its current workload, and managerial and technical qualifications will be the key to approval of both primes and subs on future ICBM site projects.

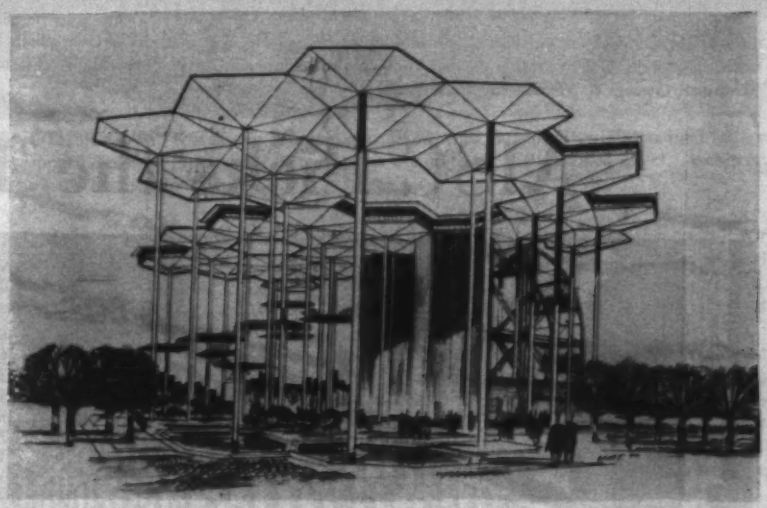
Joint ventures will continue to be allowed. A bid will be accepted even though the joint venture itself is not on the listing of qualified contractors. But at least one of the venture's partners must be certified as qualified before a joint bid for a prime contract award is accepted. A prime award would be held up, however, until qualifications of partners not already certified are cleared.

"Contracting officers shall invite bids from those contractors determined to be qualified for the particular job involved," General Itschner's order reads.

"CEBMCO will establish a system to consider the qualifications of bidders and will maintain a list containing all companies determined to be capable of performing contracts under the ICBM construction program.

"If requests for invitations to bid are made by firms not determined to be qualified, they shall be informed that because of the national urgency of the program, (this) procedure is applicable and that the contracting officer has not been able to determine that such firms are qualified for this program."

The new decision on limiting bids comes on the heels of other important policy measures taken recently to speed up the program and to prevent construction delays on future ICBM sites: the centralization of both the Army Engineers and Air Force commands in charge of the program; and the requirement that prime contractors on an ICBM job subcontract out no more than 85% of the project work.



Fair Buildings: Brewer Heads List

A beer company last week was first of the 10 major prospective tenants of the 1964-65 New York World's Fair to announce the design and type of building it will construct on its site.

The structure, planned by Liebmann Breweries, Inc., will cost $2 million, be 80-ft high and cover 25,000 sq ft. This is half of the maximum ground area that each commercial exhibitor is to be allowed.

The roof will consist of 32 hexagonal pods, each containing 630 sq ft, cantilevered from their own central column by means of aluminum outrigger trusses.

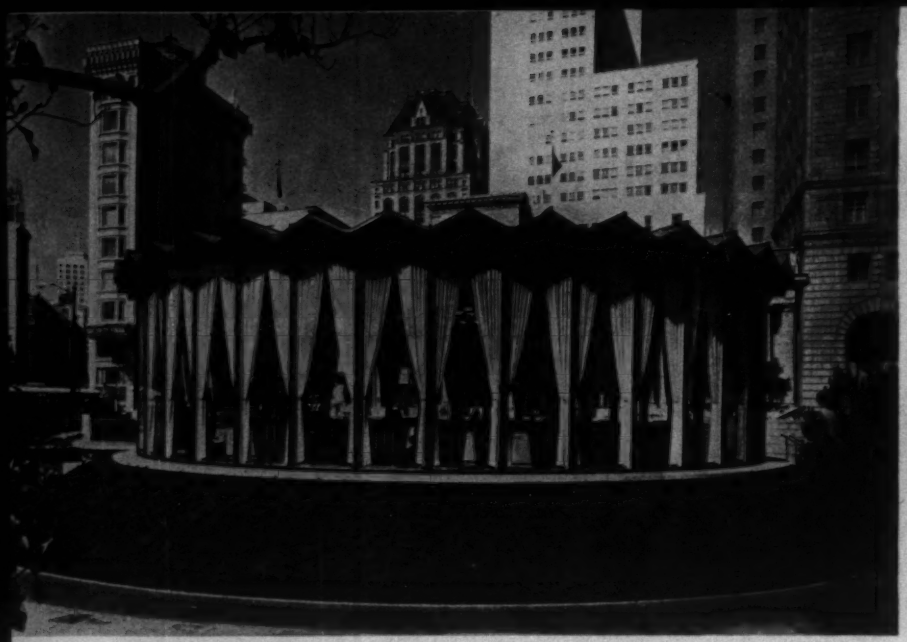
These will support raised open terraces and a glass-enclosed restaurant seating 500 persons. The restaurant and its terraces will be reached by a ferris wheel and glass enclosed elevators.

The ground level will be landscaped with a series of ponds and terraces.

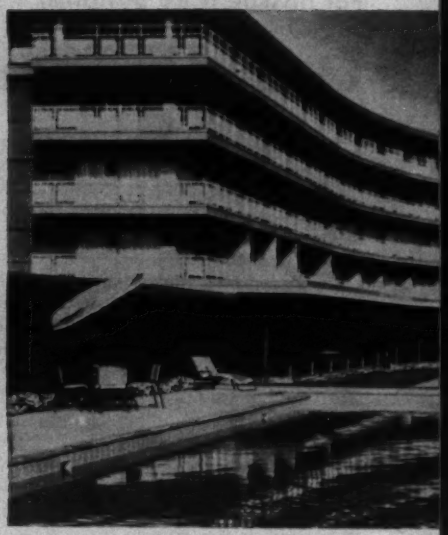
Neither the materials nor the engineers have been selected yet, according to Robert Jacobs, of Kahn and Jacobs, architects for the building.

Robert Moses, president of the World's Fair Corp., announced that nine other exhibitors have applied for the maximum space in the 63-acre tract allotted to U. S. industrial exhibits. They are the American Gas Association, American Telephone and Telegraph Co., Borden Co., Eastman Kodak Co., General Electric Co., International Business Machines Corp., P. Ballantine and Sons, Pepsi-Cola Co. and Singer Sewing Machine Co.

Mr. Moses also said that the maximum space for single exhibitors had been cut back from two acres originally planned to about 1 1/7 acres. This was done so that the largest possible number of companies will be able to participate.



BRANCH OFFICE in San Francisco for American Trust Co. is a 70-ft-dia circular pavilion with glass walls and accordion-pleated roof supported on slim steel columns. Architect: Skidmore, Owings & Merrill, San Francisco.



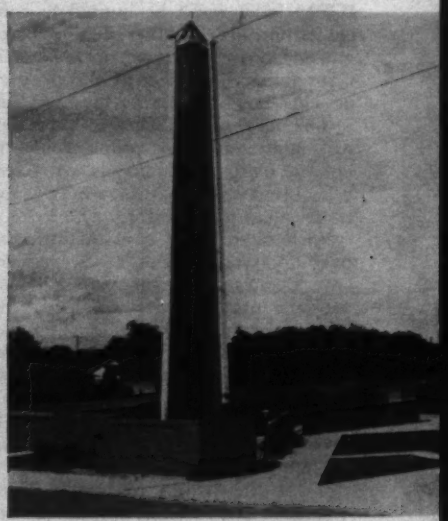
HOTEL in Boulder Colo., is an arc-shaped five-story structure with structural steel framework, joists and studs. Exposed struc-

AISC Picks the Top Buildings

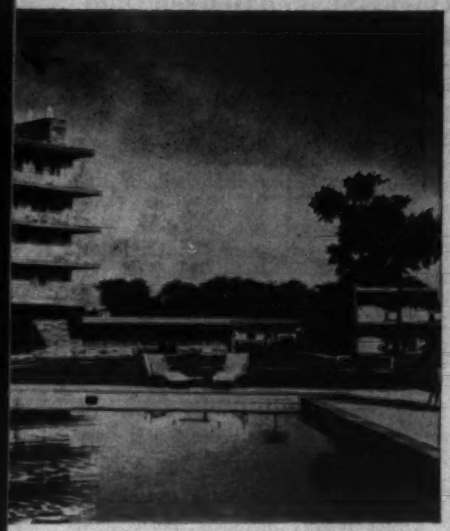
Encouraged by the promotional success of its annual "beautiful bridge" competition, the American Institute of Steel Construction this fall will present the first of what will be annual awards to architects for outstanding design of buildings constructed with structural steel.

Notable feature of the first crop of award winners is the use of exposed steel in seven of the 12 prize designs. Exposed steel, say the architects, offers

BANK in Detroit is a 232-ft-high building framed with structural steel. The facade is marble, glass and stainless steel. Architect: Albert Kahn Associated Architects and Engineers, Inc., Detroit.



CHURCH in Midland, Tex., has diagonal rigid frames with A-frame between to create an undulating roof and vaulted ceiling. The



tural steel forms the canopy framing. Architect: Ralph D. Peterson & Associates, Denver, Colo.

HIGH SCHOOL GYM in Greensboro, N. C., has a steel-framed roof supported on two-hinged diagonal steel arches, which span 173 ft and intersect at the crown. Architect: Loewenstein-Atkinson, Greensboro.

ANOTHER GYM, this one in Bloomington, Ill., has 10 curved rafter, 38-ton rigid frames to support the roof. A parabolic-formed fascia accounts for the scalloped effect. Architect: Wilson & Evans, Bloomington.

In Steel

sharp, clean lines, a sense of strength without ponderous weight, economical erection and low maintenance.

Award-winning architects are Skidmore, Owings & Merrill, San Francisco, for the American Trust Co. building in San Francisco; Martin and Lemmon, Andrews, Tex., for St. Ann's Catholic Church in Midland, Tex.; Ralph D. Peterson & Associates, Denver, Colo., for the Harvest House Hotel near Boulder, Colo.; Albert Kahn Associated Architects and Engineers, Inc., Detroit, for the National Bank of Detroit; Loewenstein-Atkinson, Greensboro, N. C., for Dudley High School Physical Education Building in Greensboro.

Also among the winners:

Lundeen & Hilfinger with Schaeffer, Wilson & Evans, Bloomington, Ill., for the Bloomington High School Gymnasium in Bloomington; and Alfred D. Reid Associates, Pittsburgh, for the Children's Hospital of Pittsburgh; Clarence H. Glass, Decatur, Ga., for Red Bud High School Coliseum in Red Bud, Ga.; David B. Thorne, Berkeley, Calif., for Bartlett Mountain Retreat Cabin in Huntington Lake, Calif.; Welton Becket, Los Angeles, for The Southland Center in Dallas, Tex.; Cochran, Stephenson and Wing, Baltimore, Md., for Church of Our Saviour in Baltimore; Ledner and Saputo, New Orleans, La., for the National Maritime Union Building in Baltimore, Md.

rigid frame columns are coated with V-shaped terrazzo outside. Architect: Martin and Lemmon, Andrews, Tex.

HOSPITAL in Pittsburgh is framed with structural steel. Behind the main building is a three-story outpatient wing fronting on a landscaped court. Architect: Alfred D. Reid Associates, Pittsburgh.

Around the World . . .

• **An historic route**—Massachusetts will ask the Bureau of Public Roads to approve a 48-mile expressway that would link historical sites between Boston and Plymouth. The road would parallel the old coast road from the Massachusetts Bay Colony to Plymouth Colony.

• **Achitectural contest**—The American Institute of Architects is now accepting entries in its 13th annual Program of National Honor Awards for current work. The competition is open only to American architects, but buildings submitted may be abroad. Registration fee is $10. Deadline for entry is Nov. 21.

• **Italians to build Dez Dam**—Contract to build Iran's 620-ft Dez Dam has gone to the Italian combine IMPRESIT, Ing. Lodigiani and the Umberto Girola Companies. Construction costs for the multipurpose concrete arch are expected to run to nearly $30 million, to be financed mainly by the World Bank.

• **Air terminal rushed**—Port of New York Authority is pushing construction of the four-story central section of the new passenger terminal building at New York's LaGuardia Airport to get it operative by 1964, in time for the New York World's Fair. The $9-million section originally was scheduled to open in 1965.

• **Federal skyscraper**—The General Services Administration expects to have plans completed next spring for a $70 million "center" in New York City. The center will consist of a 41-story federal office-building and an eight-story Customs Court building. Kahn & Jacobs, Eggers & Higgins and Alfred Easton Poor are the architects—all are New York City firms.

• **No featherbedding here**—Boston's rapid transit lines are studying feasibility and cost of converting to a system that would require "absolutely no personnel" on trains.

• **Kariba's second stage** – Kariba Dam's north bank is being explored in preparation for construction of the second-stage underground powerhouse. The new plant will add 900,000 kw, bringing Kariba's total capacity to 1.5 million kw by 1970. Two of six 100,000-kw generators are now on the line at the first-phase underground powerhouse.

• **Railroading down under**—First major contract in the $70-million rehabilitation of 750 miles of railroad in North Queensland, Australia has been awarded to a joint venture of two Australian companies and one New Zealand and one American contracting firm. The American: Henry J. Kaiser Corp., Oakland, Calif.

Alcoa Joins in Zeckendorf Venture

Aluminum Company of America will be partner with Webb and Knapp, Inc., New York City, in the development of the long-pending $250-million Century City in Los Angeles.

The latest cost estimate is scaled down from the original figure of $400 million when the project was first announced (ENR Jan. 16, 1958, p. 26). A spokesman for Webb and Knapp, however, said the development will result in outlays of more than $250 million, but how much over that "we don't know."

The development calls for the construction of high-rise apartment buildings, offices, stores and a hotel during the next 10 years. The present owner of the 265 acres, Twentieth Century Fox, will retain use of the existing 75-acre studio lot under a $1.5-million annual net lease with Webb and Knapp and Alcoa.

William Zeckendorf, president of Webb and Knapp, has made a $5-million down payment on the tract. Subject to the approval of Twentieth Century Fox stockholders later this year that company will get a total of $43 million for the property.

Title to the land is expected to pass next spring to a Webb and Knapp subsidiary 91091 Corp. It is in this corporation that Alcoa has bought a 40% interest; Webb and Knapp owns the balance.

Alcoa plans to use the proposed development as a showcase for aluminum curtain walls on multiple-unit residential buildings.

With this step, Alcoa follows the example of a competitor, Reynolds Metal Co., which will co-sponsor a $250-million urban renewal project in Philadelphia (ENR June 9, p. 21). That project calls for construction of 10,000 houses, an industrial park and commercial areas on a 2,506-acre tract.

Quake-Shaken Hebgen Dam Fixed After Year's Work

Earthquake damage suffered last year by Montana Power Co.'s Hebgen Dam is expected to be repaired by mid-September.

Although the earthfill, concrete-core structure cracked and shifted in the quake (ENR Aug. 27, 1959, p. 24), it held. Extensive inspection later confirmed early observations of the damage. The biggest cracks opened on the crest of the dam near the spillway (ENR Sept. 10, 1959, p. 27). The shock also caused the abutment, on the spillway side, to settle some eight to ten inches.

A new concrete overflow spillway is being constructed to replace the old one. It will be 630 ft long and have a discharge capacity of 4,000 cfs. Construction is expected to cost no more than repairs to the old one.

Other repairs included replacement of the earthfills on the upstream and downstream faces of the dam, installation of new control gates on the intake structure, and construction of spillway intakes.

The 721-ft concrete core wall was cracked in places, but the openings—none more than 3¾ in. wide—are being filled with grout. A section abutting the spillway is being replaced.

To inspect the damage in detail, the power company drained the reservoir and stripped the upstream earthfill from the dam.

Sewer and Water Needs Forecast By Maryland

Needed construction of water and sewerage systems in Maryland would cost some $44 million in the next five years, $81 million in the following five years and $142 million beyond the next ten years.

The figures were compiled in a study prepared by the Bureau of Environmental Hygiene. The study excludes projects already under way and those for which capital funds have been made available.

Sewerage construction should hit $28 million in the next five years, $41 million during the following five years and $52 million beyond ten years, according to the study.

Water construction during the same three periods would cost $17 million, $40 million and $90 million.

The city of Baltimore alone will require sewerage and sewage-treatment plant improvements totaling about $2 million in the next five years, $4 million in the following five years and $6 million after ten years.

Baltimore's water needs are estimated at $10 million for the first five years, $30 million for the second five years and $60 million after that.

ENR asks Ralph Tudor...

In the early months of the Eisenhower administration, a partnership policy for water resource development was announced by the late Interior Secretary Douglas McKay. One of the architects of the policy was San Francisco consulting engineer Ralph Tudor, then Under Secretary of Interior. After hearing Mr. Tudor talk on the subject at a recent meeting of the American Society of Civil Engineers, ENR's West Coast editor Larry Wise asked him a series of questions. Here are the questions and answers.

How Has Partnership Worked?

Q. Just what is the partnership policy?

A. Under the partnership policy the federal government attempts to create an atmosphere or climate that will not only permit but also encourage local utilities, both public and private, to undertake construction and ownership of power-generating facilities. When they can't do this with their own resources, then superior political entities such as the state and federal governments should come in to assist them. The various entities should participate jointly. But the initiative should come from the echelon nearest the people to be served.

Q. Is the federal government necessarily a financial partner?

A. No. A good example of this is the Tri-Dam Project in California, built by the Oakdale and South Joaquin Irrigation Districts to store irrigation water. Power generated incident to the storage of the water is sold to the Pacific Gas & Electric Co., and the revenue is used to retire the project's bonded debt. The partnership is between two irrigation districts and the local private utility. Neither the state nor the federal government participates.

Q. Does this mean that the federal government will stop building power projects?

A. No. Where a project is so complex that it can be built only by the federal government, construction is undertaken. One example is the Glen Canyon Dam on the Colorado River.

Q. Can you cite favorable results of the partnership policy?

A. Developments in the Pacific Northwest are a tribute to the partnership policy. In 1950, 70% of the power projects under construction in that area were federal and only 30% were locally sponsored. This year only 43% are federal; local interests are responsible for the remaining 57%. I expect the proportion of local effort to increase if the partnership program is permitted to continue.

Q. What are some of the projects figuring in this trend?

A. Priest Rapids Dam on the Columbia River is a fine example. This project was undertaken by an obscure local district, Grant County Public Utility District. Obviously, Grant County PUD did not have financial resources to construct works running in excess of $100 million. But by signing firm contracts for power delivery with other publicly-owned districts as well as with a good number of private utilities, it was able to market bonds to underwrite the project cost.

Another example centers on the Hells Canyon section of the Snake River. Here, a local investor-owned utility was willing and able to build dams to generate the power. Some federal agencies and officials opposed this and proposed to build a large federal dam. After several years of controversy, the private utility is now being allowed to build the project. There will be no cost to the federal government. The utility will pay heavy taxes to the federal government, the state of Idaho and to lesser political echelons. And the project includes a substantial amount of flood control potential constructed at no cost to the federal government.

Q. How does the federal government participate actively in a local project?

A. To cite an example, California proposes to build Oroville Dam as part of the state water plan and install the turbines, generators, and other power equipment. The federal government has agreed to pay for the flood control benefits. A private utility will transmit and market the power.

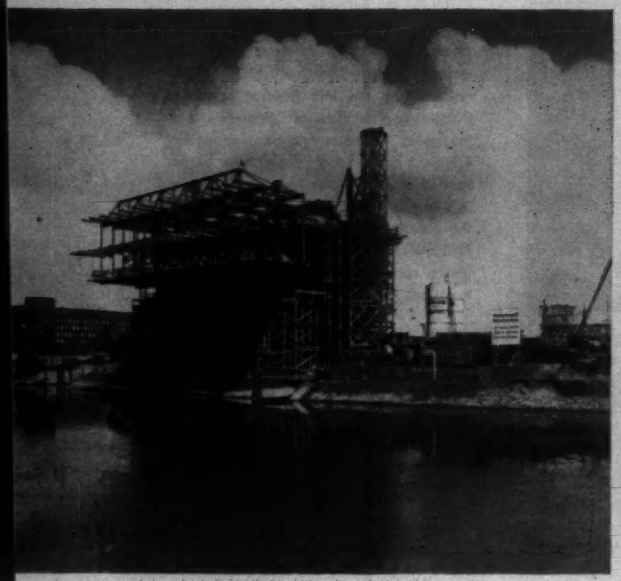
The federal government will participate similarly in a Merced River project. The Merced Irrigation District proposes to build three storage dams for irrigation water. A large block of power generated incident to the main purpose will be sold to the Pacific Gas and Electric Co. on a 50-year contract. Under legislation recently enacted the federal government will pay for flood control benefits.

Q. Has the federal government failed at times to take full advantage of partnership possibilities?

A. Unfortunately, yes. The Trinity Project in California is such a case. The federal government is building a reservoir there for the storage of water for irrigation and other purposes. The local investor-owned utility offered to buy the falling water for power generation. The Department of Interior recommended acceptance to save the federal government a multimillion dollar investment and, furthermore, to enable various political entities to collect very substantial taxes that they would not obtain if the federal government built the project. Congress rejected the proposal and directed the Bureau of Reclamation to make the power installation. This is a regrettable violation of the partnership concept.

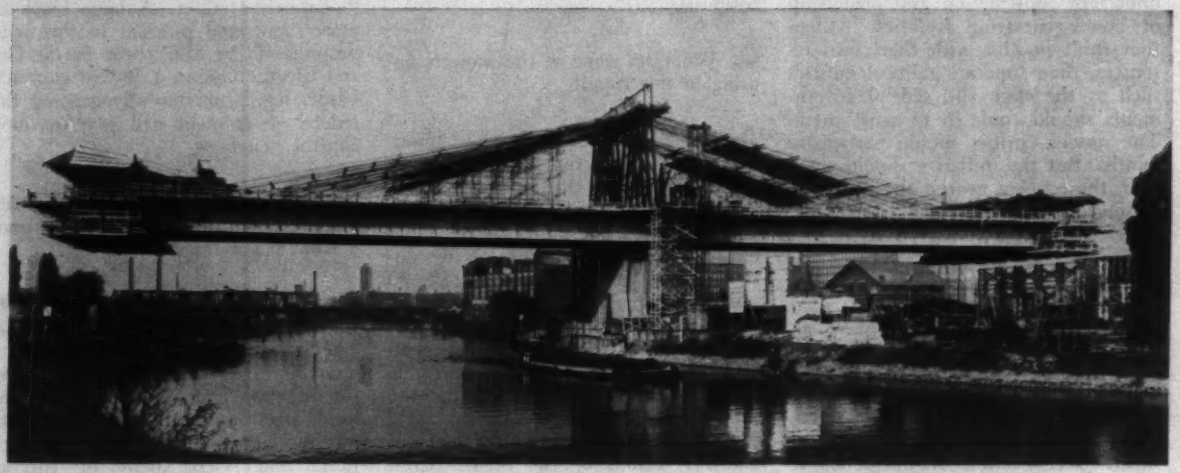
Q. Is the partnership concept new?

A. No. The federal government has participated in many such projects since the first one was effected in 1908 under the administration of Theodore Roosevelt. In every administration since that time, regardless of the political party in power, there have been new examples of federal participation in partnership project. This proves that it can work.



1. Work begins at pier.

2. Individual sections 11 ft, 10 in. long are cast and prestressed.



4. Added sections are supported temporarily by cables from A-shaped tower on pier.

Germany's Longest Prestressed

A 2,970-ft prestressed concrete highway bridge, Germany's longest, will be part of the projected 65-mile expressway belt around Berlin. The Nordwestbagen Bridge will be completed this year at a cost of about $3.9 million. It is prestressed both longitudinally and transversely.

The 95-ft-wide deck will carry six lanes of traffic. The bridge, located on a long curve with changing radius and on a 1½% grade, is superelevated for a design speed of 75 mph. It has twelve spans from about 213 to 278 ft long. Average height is 43 ft.

Engineers designed the structure to be built two spans at a time, cantilevering in both directions from a single pier simultaneously. This concept permitted design of the structure without transverse joints.

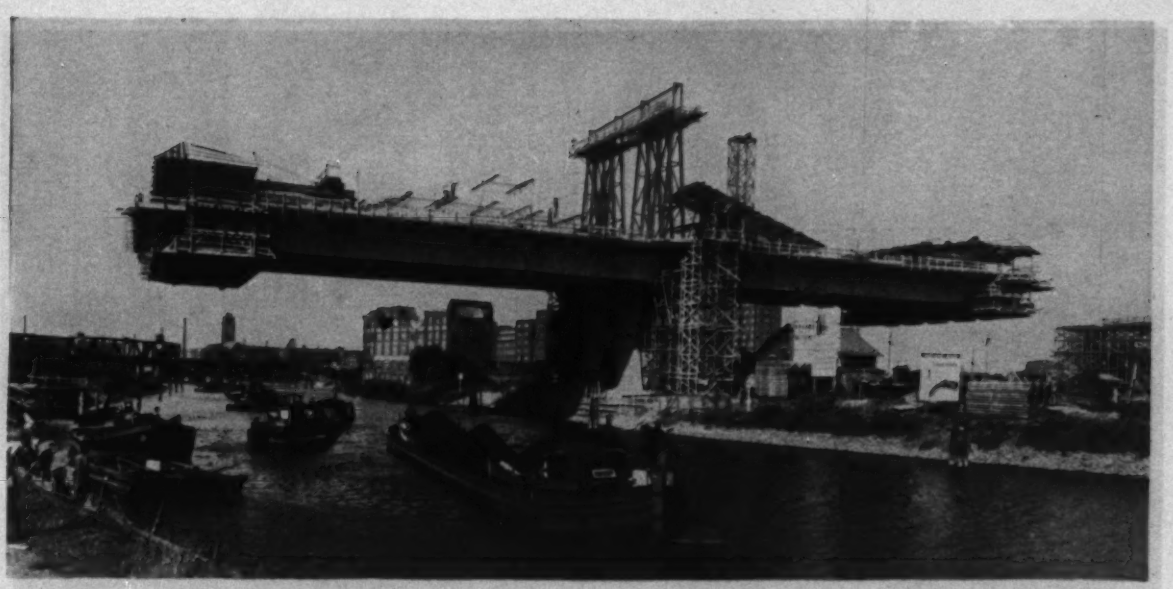
The bridge is of twin cellular girder design, with each girder having two cells. Vertical elements are about 8½ ft deep and from 16 in. to 25 in. thick. Bottom of the cells varies in thickness from less than 5 in. to 2 ft 8 in. at the piers. The roadway deck is about 1 ft thick. It will have a 2¾-in. asphaltic wearing surface.

Contractors first drove piles for the foundations and built the piers. Prestressed concrete piles that support the piers are 17 in. in diameter and from 21 to 33½ ft long. Each pile is designed to support a minimum load of 65 tons.

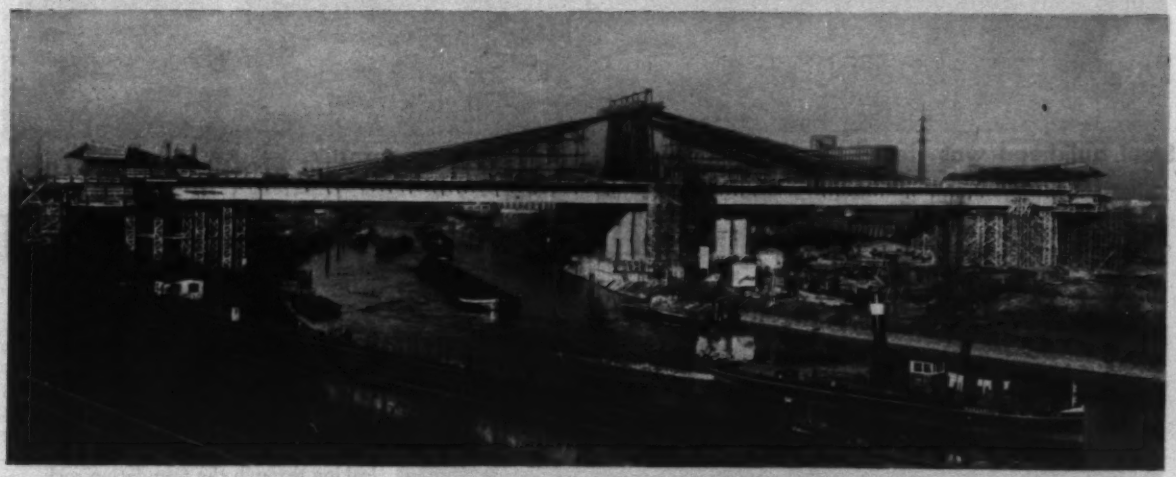
After erection of the piers, the work is done in one-week cycles. Each week, two 11-ft 10-in. segments are completed, one on each side of a central pier. About 60 hours must elapse before the fresh concrete can be prestressed. A continuous prestressing system is used.

The contractors first cast the stub ends of the two cantilever spans, using falsework to support the forms. A massive construction car is then suspended from the stub end on each side of the pier; the car carries the forms for each weekly segment and prestressing equipment.

In each cycle, the car is moved to the proper position, the girders cast, the



3. Cantilevers extend in both directions. Construction "car" carries forms and prestressing equipment.



5. Final sections rest on falsework next to adjacent piers. River span is about 278 ft.

Bridge

concrete allowed to harden, and the added section stressed. The cycle is then repeated.

When the cantilevers have been extended to the length of nine segments on each side, following segments are supported temporarily by cables radiating from a 32-ft high, A-shaped tower erected over the pier.

Falsework is used to support the final sections of each cantilever, adjacent to the next pier on each side.

Dyckerhoff and Widman, consulting engineers and contractors, designed the bridge and are participating in construction with Beton and Monierban AG, and Phillipp Holzmann AG, all of Berlin.

6. Finished structure will be part of Berlin expressway net.

Steel bulkhead was closed to shut off diversion-tunnel flow temporarily.

Plugging a Tunnel Can Be as

Skips dumped concrete for bottom 8 ft of 280-ft main plug.

One of the most exacting jobs involved in building a new water-supply dam for Sydney, Australia, had very little to do with the dam itself. It was plugging a diversion tunnel that passed beneath one abutment, to make sure it would never serve as a path for water leaking through the foundation rock.

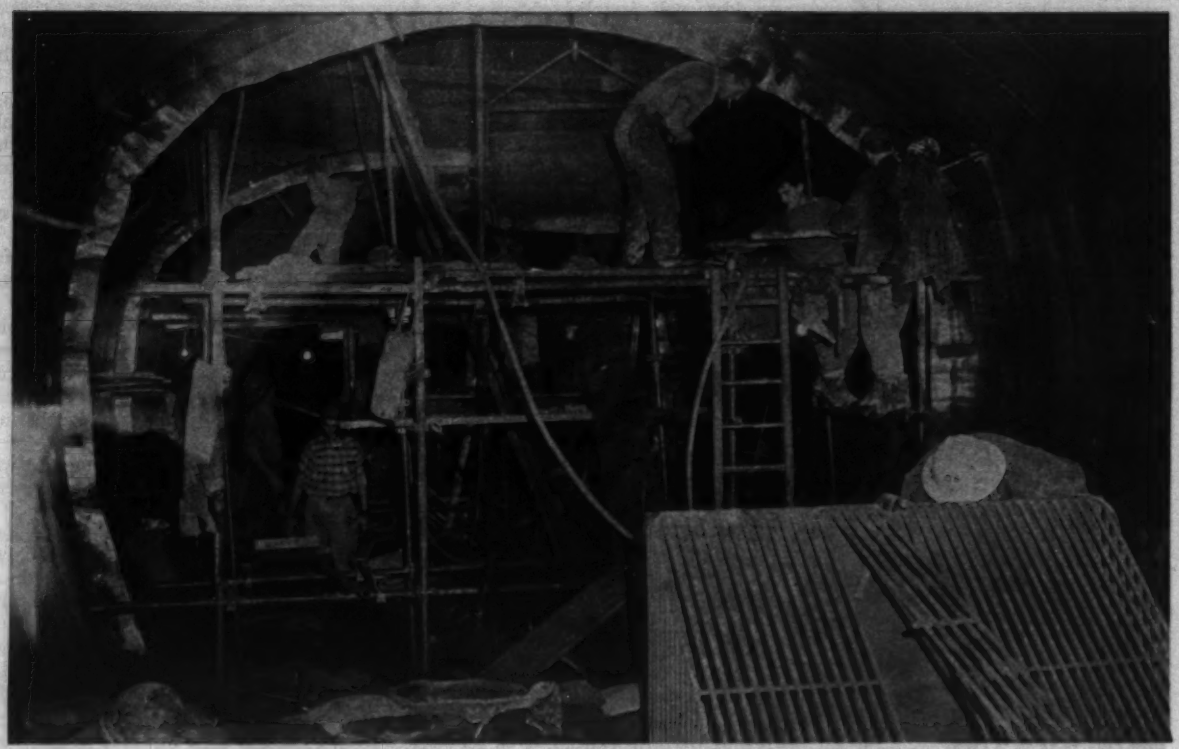
The job required two concrete mixes, one for dumping and another for pumping. And besides dumping and pumping, it required a third method of placement—dry packing by hand.

The tunnel is about 1,800 ft long. It is 18 ft wide by 14 ft high and has a dished floor and arched roof.

• **Dewatering the tunnel**—The tunnel actually required three plugs: a short one near each of the two portals to insure that the bore would be kept in the dry, and a main plug between the first two.

Before any concrete was placed, inflow was shut off and the tunnel pumped dry. Inflow was stopped at the upstream portal by closing a heavy steel bulkhead installed earlier.

The first plug was a 20-ft-long section to be placed at the base of the upstream shaft. Before concreting, two 12-in.-wide copper seals were placed



Then short sections near portals (like this one in preparation) were plugged.

Tough a Job as Driving One

circumferentially around the tunnel, across the joint to be made between the new concrete and the old concrete lining. Steel dowels were grouted into holes bored into the surrounding rock to help resist sliding pressures.

Concrete was chuted directly down the shaft. After it hardened, the joint was grouted. Then the upstream section was flooded by opening a valve in the steel bulkhead.

A second plug, similar to the first, was placed in the tunnel a few feet below the downstream shaft, over 1,200 ft from the first shaft.

• **Keying the main plug**—The final stage of the work consisted of filling a 280-ft length of the tunnel with concrete adjacent to the initial plug. This main plug incorporates two keys, or enlarged sections. Recesses for them were excavated out of the solid rock. The keys will resist any tendency the plug might have to slide along the tunnel.

Since the areas in which the keys were to be formed were immediately beneath the main dam and had already been grouted, ordinary blasting techniques were undesirable. Hand methods were ruled out as too dangerous, and it was decided to remove the 1,000-

Pumps filled upper 6 ft of the main plug.

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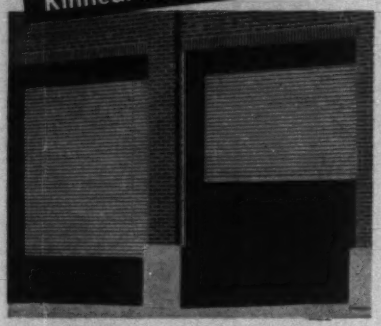

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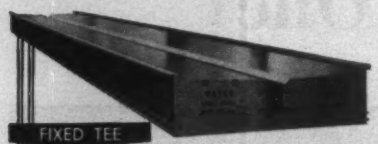

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odd cu yd of rock by blasting in thin increments.

The first step was to isolate the section to be removed for the key. Grooves about 2½-in. wide and 4 ft deep were cut in the roof lining at each end of the key using jackhammers with tungsten-carbide tipped bits. Then a row of blast holes 1⅝ in. in diameter by 3 ft deep and spaced 8 in. apart were drilled on a slant to intersect one of the grooves. The holes were loaded and fired with millisecond delay detonators to remove a wedge-shaped section of lining.

The whole roof was thus gradually removed, an 8-in.-thick slice at a time, by drilling, loading and firing successive rows to a depth of about 4 ft.

This depth included all the unreinforced concrete lining, which varied from 2 ft to 4 ft thick. Then the procedure was repeated in the rock until the desired excavation limits were reached.

Walls and bottoms of the keys were excavated similarly.

Spoil was brought to the surface through the downstream shaft. It was hauled by rail from the excavation area to the shaft bottom in skips. The railway was laid on a timber trestle at one side of the tunnel to facilitate tipping from the skips.

• **Two concrete mixes**—To reduce shrinkage of the concrete after placement, specifications called for aggregate as big as practicable and low cement content. The bottom of the tunnel to a depth of 8 ft was to be filled from side-tipping railway skips mounted on a high trestle. Aggregate up to 3-in. maximum was allowed for this. The top section of the tunnel was to be concreted by pumping. This required a pumpable mix with ¾-in. maximum size aggregate.

• **Concrete drops 110 ft**—The confined space and remoteness of the work complicated concrete transport and delivery. The material was hauled in 2-cu-yd batches from the mixing plant to the shaft, a ¾-mile haul down a steep grade. Then it was tipped into a hopper that fed a 12-in.-dia vertical chute down the shaft.

The chute, a 6-ga steel pipe 110 ft long, terminated in a steel hopper designed to break the fall and prevent segregation. Railway skips were loaded directly from the hopper.

• **Concrete placement**—The bottom 8-ft depth of the main plug was concreted full length before starting the upper part. The first section to be undertaken was a 90-ft length immediately adjacent to the initial plug at the base of the upstream shaft.

Loaded skips were taken by battery-powered locomotives to the bottom of a steep ramp leading up to a timber trestle over this section, then air-winched up the ramp and along the trestle to the tipping point.

For the middle length of the plug, the tunnel alignment made it possible to ease the slope of the ramp, and the air winch was superseded by electric locomotives.

The final 120 ft was concreted similarly but with the addition of a 6-ft-dia gallery along the tunnel for servicing the grouting and concrete-cooling systems.

Joints between new concrete and the old concrete lining or rock were grouted. Also grouted were the joints between 30-ft lengths of plug. Cooling coils were provided for horizontal construction joints.

After the bottom 8 ft of the plug was concreted, the remaining 6 ft was filled in mainly by pumping.

The pump was placed as near as possible to the section being concreted and the mix was supplied by rail. It was hauled through the tunnel in bottom-dump skips—five 20-cu-ft skips to a train. On arrival at the pump, skips were lifted by a mobile transfer unit up a short elevated railway over the pump feed hopper. There they discharged and then returned to the shaft for refilling.

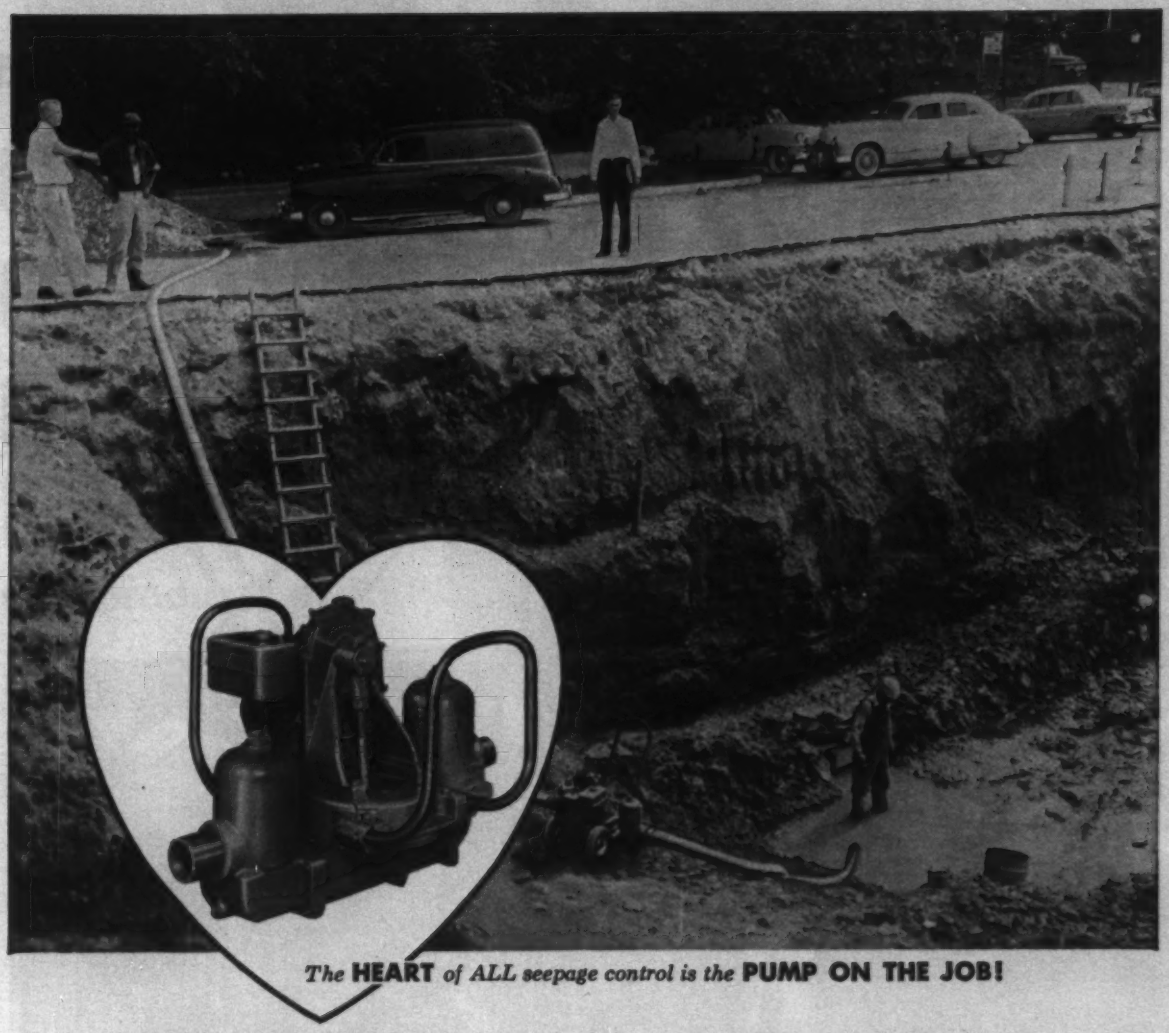
The concrete was placed in 10-ft-long increments so that dry packing to the roof could be carried out by hand. Pours were held by lightweight timber formwork in four panels. The forms were supported by adjustable steel struts inclined at 45 deg and bedded in small depressions in the floor. Panel bases were held in place by a log on the surface of the lower 8-ft depth of concrete and anchored by steel dowels embedded in previous pours.

Placement rate for the bottom of the tunnel ranged from 5 to 6.5 cu yd an hour mostly. The maximum rate was 8.2 cu yd an hour. The rate for the upper part of the plug varied from 8 to 10.5 cu yd an hour.

• **The over-all project**—Warragamba is owned by the Metropolitan Water, Sewerage and Drainage Board of Sydney, New South Wales. It is a straight concrete gravity dam. Counting the spillway apron, it contains some 1.6 million cu yd of concrete. The project is nearly finished.

The reservoir will have a storage capacity of 460 billion gallons, thereby insuring Sydney a daily supply of 285 million gal, even in severe drought years.

A 300-ft-long overflow spillway is located in the middle of the 1,100-ft crest. The dam has four 7-ft-dia water-supply outlets and an 11.5-ft outlet supplying a 50,000-kw hydroelectric plant.



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LETTER FROM MOSCOW:

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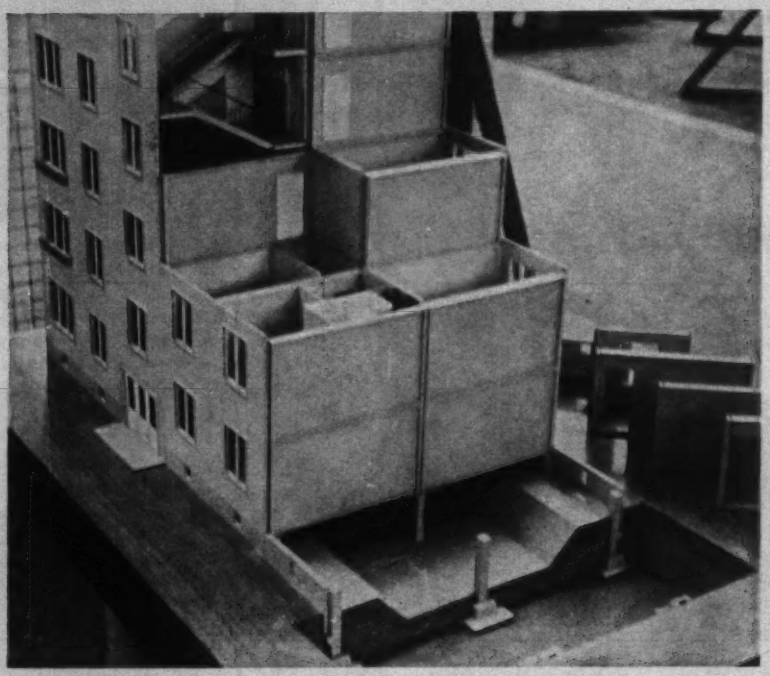
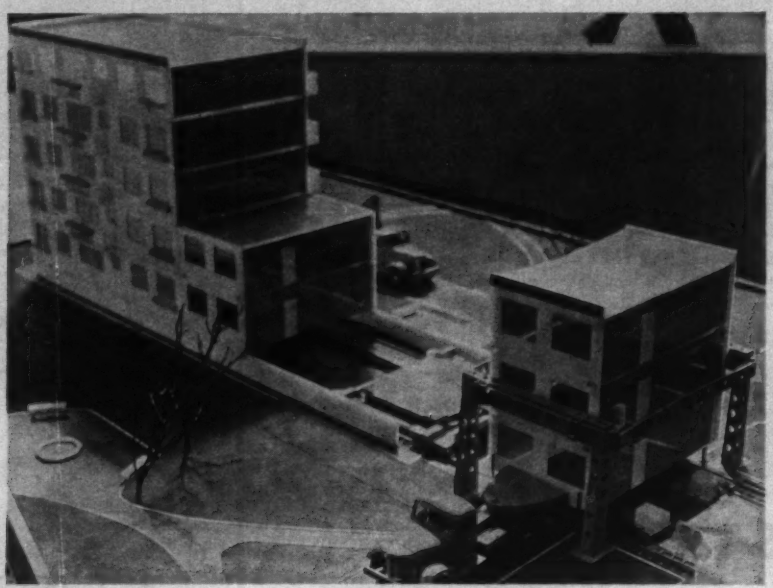


THE GOAL—Most apartments are to be of prefabricated concrete panels assembled at the site into buildings without frames. Most go to four or five stories.



BEYOND THAT—Leningrad is experimenting with offsite construction of an entire building section, which is added like a building block at the site.

By Ernest Conine

Capitalist countries have no monopoly on construction problems, according to a recent Soviet National Conference on Townbuilding. The world's foremost planned society is facing up to the need for better planning in the construction industry.

According to Vladimir Kucherenko, Chairman of the USSR Council of Ministers' State Committee for Construction, the current Seven Year Plan is doomed unless many shortcomings are eliminated. The plan calls for using assembly line construction methods to put half the urban population into new apartments by 1965.

• **Precasting buildings**—The backbone of the program is a massive changeover from brick construction to standardized, reinforced concrete panels. Only 7% of all new housing is now of concrete. Plans call for an increase to 62% by the end of 1965, but even the weight of Premier Khrushchev has failed to keep the program up to schedule.

Premier Khrushchev and other top officials insist that the best standard design for apartment buildings is for four or five stories, without elevators or garbage chutes, and made with large prefabricated panels.

The panels—to be assembled at the building site—are factory-produced.

Soviet officials expect great savings from such industrial methods—and feel that they are the only way the nation's housing problem can be solved in the allocated time. Construction with the prefab panels, they estimate, requires only half as much labor as conventional methods. Weight is half. And costs should be 14 to 20% less.

But a switch to large-panel standardized construction requires a heavy investment in an industrial base to support it. Some 500 enterprises to produce the big panels must be built and equipped by 1965.

ENR's Moscow Correspondent Ernest Conine here offers the first of a series of letters from foreign correspondents on construction activity around the world.

Is Behind Schedule

And it is precisely in this all-important area that the Soviet program seems to be in the most trouble.

In his major address to the conference, Chairman Kucherenko noted that 122 of the 500 plants for production of the panels were scheduled for construction in 1959 and 1960.

"However, only 20 have been built so far during 1959 and the first half of 1960," he said. "Not enough attention is being given to the manufacture of technical equipment for these enterprises."

He also noted that the big wall and floor panels can't be produced without heat insulating materials and light fillers. But in the first 18 months of the plan, only 30% of the scheduled capacities for production of mineralized tiles have gone into production.

"Very slow progress is being made in construction of enterprises producing porous clay gravel filler," he adds. "Only 40% of the planned 2-million cubic meter capacity has been commissioned.

"The situation is particularly unsatisfactory in production of finishing materials," says Mr. Kucherenko. "Our construction sites are still not supplied with high quality, smart and colorful linoleum of different hues, handsome and durable wallpaper, ceramic facing and other material for interiors and facades."

The precast building picture, however, is not all gloomy. One bright spot is Moscow, where the new methods have been emphasized. The Chief Moscow Building Administration built almost 16.5 million sq ft of housing in 1959 using 96,000 workers. In 1955, the same organization built less than 7 million sq ft with 112,000 workers. Some other districts have already re-

THE FUTURE—It was to be the present in 1965; goal is now in doubt.

MOVING DAY—A new block of apartments never wants for tenants, as witness this street scene. Although Soviets boast that five new apartments are constructed each minute, only 7% of them are now of the prefabricated variety.

duced their per sq ft cost by as much as 13% by using industrial building methods.

The chief of the State Construction Committee predicts that the wrinkles will be ironed out, and that "the task of eliminating the housing shortage in our country within the next 10 to 12 years . . . is being successfully solved."

• **Pre-planning cities**—The first wiff of success in construction is mingled with the smell of defeat of another Soviet dream. Russian authorities envision cities of an ideal size (pop. 200,000 to 300,000), composed of "microdistrict" residential communities of 5,000 to 10,000 people.

They talk wistfully of corridors of greenery separating the microdistricts from the smoke and dirt of industrial sections.

They want each microdistrict to contain its own schools, stores and service facilities, and be built beside heavy traffic routes, not astradle them.

But getting the things they want calls for strict master planning on a very ambitious scale; a scale far more all-encompassing than they have been able to attain.

The Soviet Union's industrial expansion, inevitably, has been accompanied by the growth of large cities. There are now 123 cities with populations of over 100,000. Twenty-five have populations in excess of 500,000. But the Soviet Architects Union has decreed that the economics of a city improves only as the population increases to a level of 250,000, after which the relationship changes and the cost of urban engineering projects, transport and public services goes up.

Accordingly, the authorities are trying to curb the growth of large cities and encourage development of small ones. In fact, construction of new industry is forbidden in Moscow and 45 other cities of the USSR.

"The rational location of industrial, power engineering and transport projects and the building of 'satellite' towns are the principal means of limiting and regulating growth," says Nikolai Buranov of the USSR Academy of Construction.

But the cities continue to sprawl. The Russians cite as reasons the perverse preference of some people to live in single houses, and a propensity to drag everything into regional centers in an attempt to turn them into local capitals.

So far, only a few microdistricts exist. One is a highly touted tourist attraction in Moscow. But elsewhere, because of planning faults, they have not been so successful.

In Tashkent, 82% of housing construction is in one district far from the heart of the city where the residents work. In Gorky, new buildings are all being built in a single line along the streets. And in Alma Ata, only two food stores were included in a district of 50,000 inhabitants.

The Soviets blame most of these troubles on the lack of unified planning for metropolitan areas. They also score the lack of coordination among different industries that leads to duplication of water mains, sewage lines and similar facilities.

According to Chairman Kucherenko, "further complications arise because suburban areas come under the jurisdiction of regional councils. City architects don't worry about suburban planning and are not responsible for it."

Even within the cities planning is not sufficiently organized. Over 600 cities have no master plans, and cities that do have them often ignore them, usually because they are either obsolete or drawn up without a realistic appraisal of local resources.

Mr. Kucherenko offers a two point solution to the planning problems:

First, he says the city executive committees should regulate all construction in suburban zones, and its rulings should be made binding on all building organizations. "The present method," he adds, "can no longer be tolerated."

Second, more city architects should be trained and they should have more authority in drawing up and enforcing master plans. Further, they should do their work "on the spot"; not work from central designing organizations.

• **Competition from schools**—The biggest stumbling block to providing enough housing may turn out to be the Soviets failure to provide enough schools. The July plenum of the Communist Party Central Committee showed much more alarm over the shortage of schools than of apartments. A resulting change in priorities may cause a further setback in apartment-building.

Elementary school construction met only 89% of its goal last year; boarding school construction was even worse at 69%. In a move to eliminate the three-session day for school children, the Central Committee ordered local economic councils to divert to school construction some of the funds already allocated for apartment construction. Such shifting of already allocated funds has generally been forbidden in the past.

Effects of this move cannot be predicted yet, but one thing is certain: the economic—and political—investment in the housing program is far too great to allow failure.

Danish Bridge Projects Coming

A rapid growth in car ownership is pushing the Danish government closer to the construction of three bridges that may cost $450 million. Sweden may share in the cost of one of the bridges; it would cannect the two countires.

The projects and their estimated costs are:

• A 9.5-mile bridge across Store Belt between the islands of Fyn and Zealand, $215 million to $220 million.

• A two-mile bridge across Lille Belt between the island of Fyn and the peninsular of Jutland, $70 million to $75 million. This would supplement an existing bridge now operating beyond capacity.

• A 15-mile bridge across Oresund between Copenhagen, on the island of Zealand, and Malmo, Sweden, $145 million to $150 million.

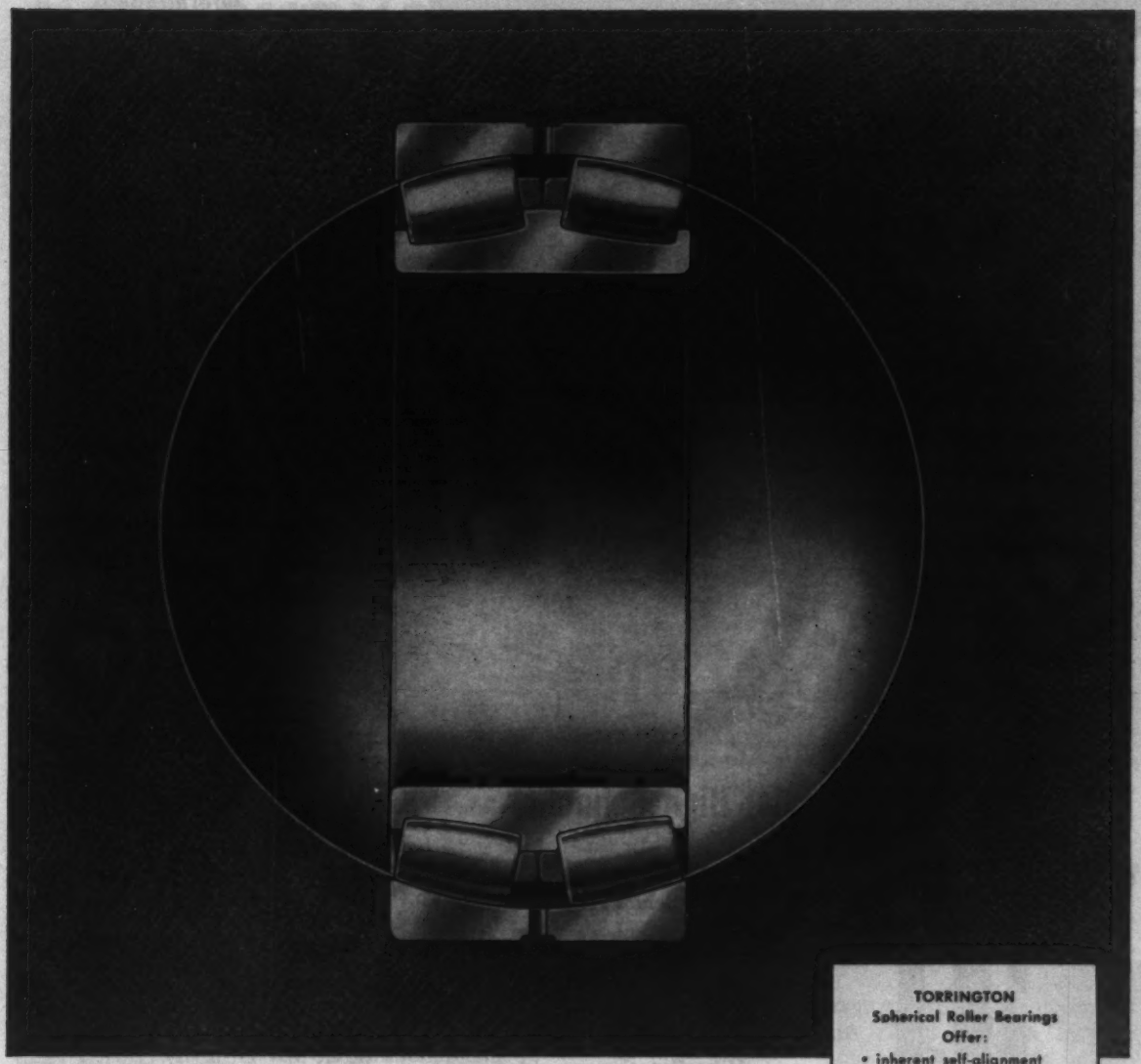
Closest to a construction start—probably in less than five years—is the bridge across Lille Belt. Parliament has already appropriated planning funds.

Money for preliminary planning of the bridge across Store Belt is expected to be provided this fall.

The bridge that would link Denmark with Sweden apparently is several years away from a start. A special study commission is expected to make a report in a few months. It probably will be the basis for negotiations between the two governments.

Biggest problem is financing. Several possibilities have been considered. There are reports that U. S. interests

(International continued on p. 40)



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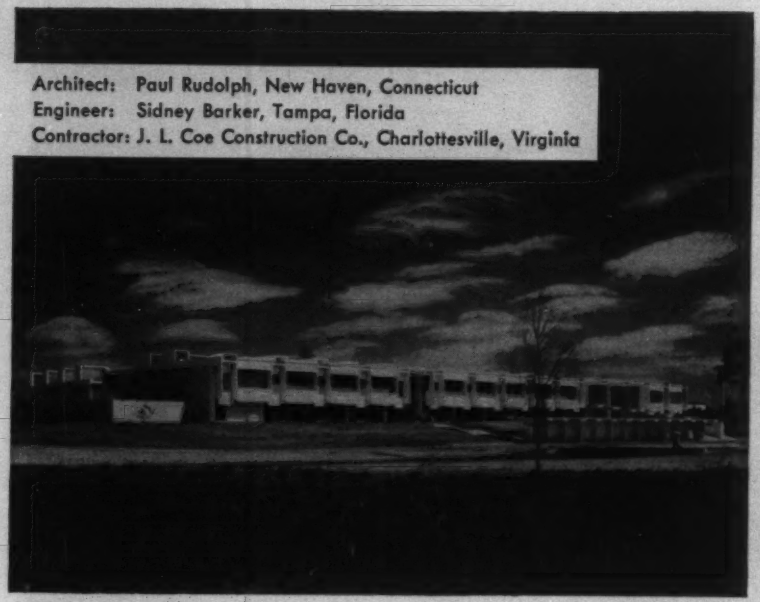

Architect: Paul Rudolph, New Haven, Connecticut
Engineer: Sidney Barker, Tampa, Florida
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PHOTO BY EZRA STOLLER

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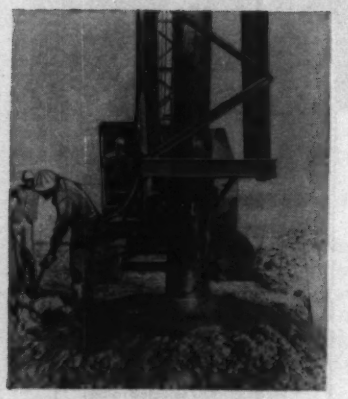

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have offered to finance and construct the bridge if given the privilege of operating it as a concession.

The surge in car ownership, in relation to the size and other geographical characteristics of Denmark, puts construction of both the Store Belt and Lille Belt crossings in the urgent category.

Denmark is composed of a group of islands and a peninsula. The latter—Jutland—is the only part of the country physically linked to the European mainland.

Only about 170 miles separates the western extremity of Jutland from Copenhagen on the east coast of Zealand, one of the two largest islands in the Danish group.

A special commission established several years ago said the Store Belt bridge would not be economically feasible or necessary until 1980, when the number of cars was expected to reach 900,000.

Now the government expects 900,000 cars to be on the roads no later than 1970, perhaps before. The timetable has been shortened accordingly. Design of the bridge is expected to take two to three years and construction about seven years.

Bids Invited by Sudan For Khashm el-Girba Dam

The Sudan Ministry of Irrigation and Hydroelectric Power has called for bids on the Khashm el-Girba Dam project on the Atbara River, a tributary of the Nile.

Khashm el-Girba will irrigate lands on which the Sudanese government hopes to resettle farmers displaced by construction of the High Dam at Aswan (ENR May 19, p. 82).

The damsite is about 271 miles from the junction of the Atbara and the main Nile.

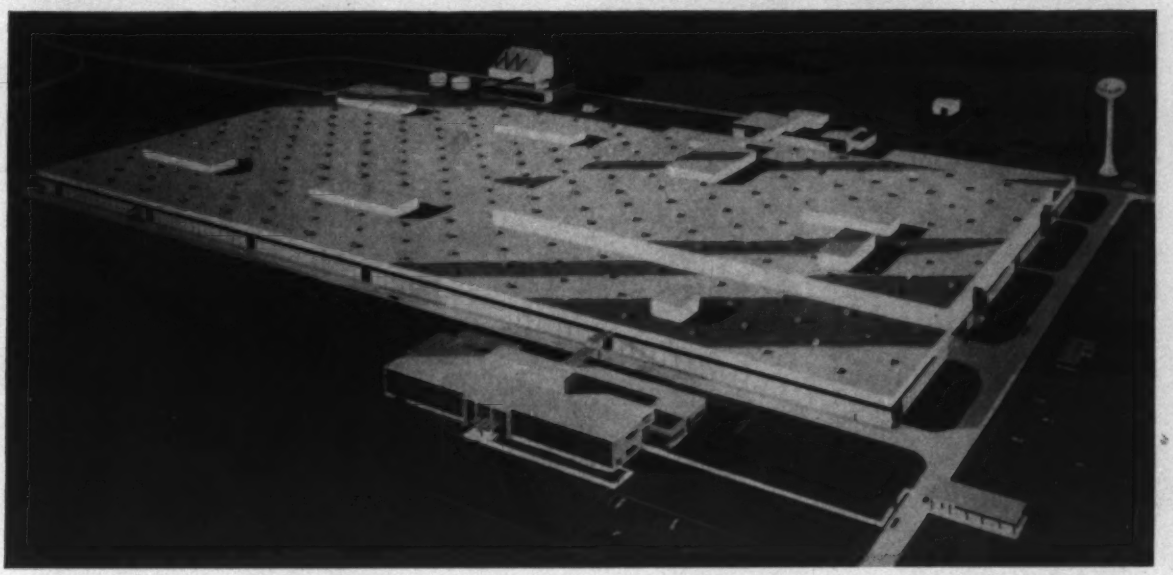
The concrete buttress dam will have a maximum height above river bed level of about 193.5 ft and will be 1,148 ft long at the crest. Earth embankments on the flanks will be about 2.2 miles long.

Bids are being let for construction of the dam, control gates and other equipment, permanent and temporary housing, roads and services.

Although the Sudan government is not yet making any definite commitment, probably pending final approval of a World Bank loan, it hopes to start construction of main civil works in November.

Consulting engineers for the project are the Societe Grenobloise d'Etudes et D'Application Hydrauliques (SOGREAH) Grenoble, France.

NEW CHRYSLER CAR-A-MINUTE ASSEMBLY PLANT



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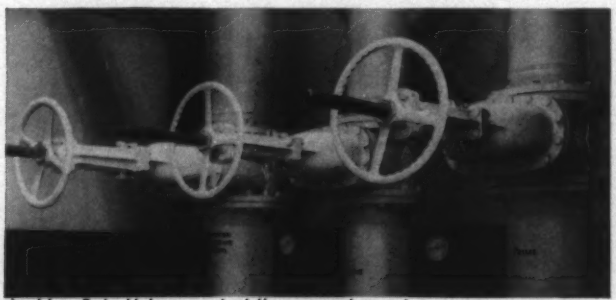

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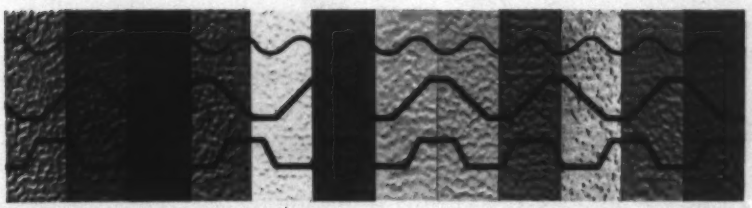

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New England Erecting Co., Inc.
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Buffalo 13, New York

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Beers Steel Bldg. Corp.
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Garland Steel Co.
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Aluminum Prod. Hawaii, Ltd.
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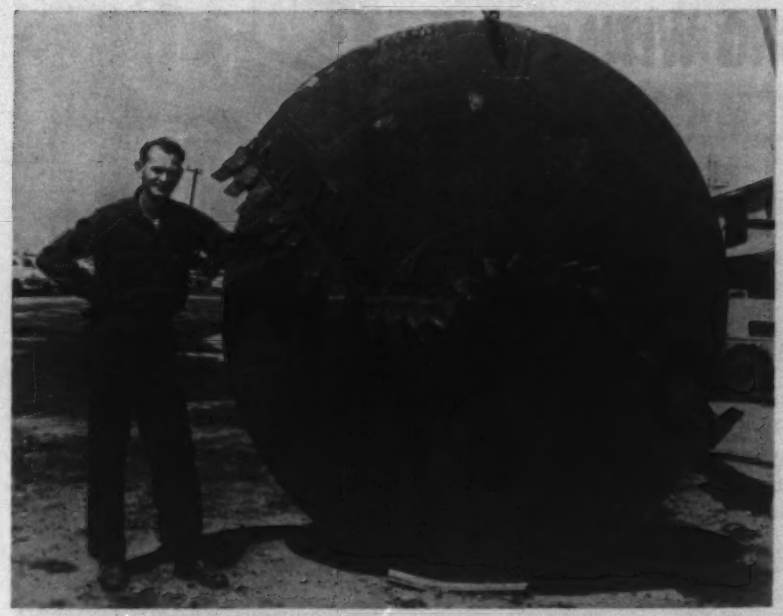


Auger Drills 8-Ft-Dia Hole

An auger capable of drilling holes 8 ft in diameter is designed for use on the most powerful drilling machines available.

The maker states that this equipment features extra-heavy duty design throughout.

Attachment hubs take 5-in. Kelly bars, but may easily be adapted to take 3½-in., 4-in. or 4½-in. bars by the use of bushings.

The series AA augers feature a 20A70 replaceable, reversible tooth. The maker says it is heavier in section, wider and longer than the 16A50 tooth currently used on the company's augers and boring heads. PETERSEN ENGINEERING CO., SANTA CLARA, CALIF.

Aluminum Jacket Protects Hot Pipe

A high-temperature insulation with an embossed, ripple-textured, protective aluminum jacket can be applied easily and quickly on industrial piping, its maker states. The insulation is produced by a high-temperature reaction of lime and silica.

The product is designed for use in power, chemical and refining industries as well as for other industrial and processing uses. The maker says it is effective to 1200 F.

Protection against damage and weather is provided by the aluminum jacket.

The longitudinal seam of the jacket snaps together with interlocking lips in one step for weather tightness. End joints are sealed with a band containing a sealing compound. By removing the joint strap and sealer bands and separating the longitudinal seam, inspection or pipe repairs are easily made.

Called "Kaylo-Klad Pipe Insulation," the product is made for use with iron pipe sizes from ½-in. to 24-in. in thicknesses from 1-in. to 3-in.; and for use with copper tubing from ½-in. to 3⅛-in. in thickness of 1 in. and 1½ in. OWENS-CORNING FIBERGLAS CORP., TOLEDO, OHIO.

Flame Photometer Makes Boiler Feedwater Analysis

A flame photometer computes the chloride ion content of boiler feedwater by measuring the sodium normally associated with chloride ions in boiler feedwater. The maker says the instrument is sensitive to parts per billion. It also measures other material exhibiting flame emission.

The instrument consists of two parts, an optical unit and a control panel. The optical assembly houses the sample manifold, burner, monochromator and photomultiplier. The control panel houses the high voltage supply, amplifier, automatic standardizing system, sample sequence selector and the recorder.

When an impurity is present in the sample, the flame emits the characteristic radiation of that material.

A number of analyzers will be used to monitor continuously condensate water in order to indicate leakage in the condensers, and boron content of primary loop water during start up of a nuclear plant. WATERS ASSOCIATES, 45 FRANKLIN ST., FRAMINGHAM, MASS.

Clamp and Gasket Reduce Pipe Repair Inventory

A pipe-leak clamp that its maker says is quick bolting and a strip-type gasket with metal backing are designed to simplify pipe repair. According to the manufacturer, the two products will permit maintenance departments to make reductions in repair clamp inventory.

A specially designed lug base is flatter and minimizes crush pressure while applying greater circumferential pull. Clamps are installed quickly and easily since the bolt remains in one lug and is snapped over the open slots of the opposite lug. They can be stocked in 3-in. widths only, yet can be used to make clamps in any multiple of 3-in. length up to 30 in. This is done by using the length of strip gasket as long as needed and installing clamps side-by-side.

The gasket is made of ⅛ in. gridded neoprene and this is vulcanized to a 26-gage stainless steel backing in the molding operation. Lengths supplied are 18 in. and come in 3-in. and 1¼-in. widths.

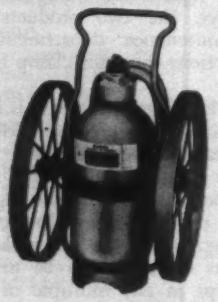
These are preformed. An 18-in. by 30-in. sheet is also made available by the manufacturer from which special strip sizes may be cut. SMITH-BLAIR, INC., 535 RAILROAD AVE., SOUTH SAN FRANCISCO, CALIF.

(New Products continued p. 46)

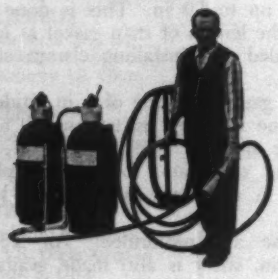
NOW! GET FULL-POWER FIRE FIGHTING WITH KIDDE'S DRY CHEMICAL LINE!

2½ and 5 pound pressurized units! Granted top rating by U.L., these two units pack the extra punch needed to get the jump on fire. For example, the 2½ pound Kidde unit is as compact as a 1 quart carbon tet model, yet is eight times as powerful! Both the 2½ and 5 feature simple, two-step operation, easy-to-read dust-and-moisture-proof gauges. 10 pound dry chemical also available.

20 and 30 pound pressurized dry chemicals! Both these Kidde units have the same good features of the 2½ and 5, plus some "extras" all their own. Center balanced for fast action, rugged diffuser horn, speedy trigger operation, recessed pressure gauge and enclosed mechanism.



200 pound dry chemical wheeled unit! Kidde's 200 pounder discharges a 40-foot stream faster, has an *extra* 50 pounds of fire-smothering dry chemical to knock down fire quicker. Low center of gravity and wide wheels make it easy to maneuver. Easy-to-use discharge control makes operation simple.



400 pound stationary unit! Here's maximum protection in a minimum package! Like all Kidde units, this features sure, dependable performance and fast, easy operation. Either wall-mounted or free standing, leakproof and tamperproof, exclusive Bridgeman Seal, universal long-range nozzle, easy-to-read pressure gauge. 200 pound model also available.

Get the jump on oil, gas and electrical fires! Learn more about the complete line of dependable, efficient Kidde equipment—write today!

Kidde

Industrial and Marine Division
Walter Kidde & Company, Inc.
944 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal—Toronto—Vancouver

Ten-Toothed Tong Pulls Cofferdam Sheetpiles

Use of semi-automatic tongs, the maker states, is saving time and cutting hazards during the construction of the New Cumberland Dam located at Stratton, Ohio.

The tongs are used to pull sheetpiles, each 60 ft long and 16 in. wide, that had been driven deep into the river bed to form a cofferdam. Powerful skin friction must be overcome to remove the piles, which are then re-used.

The piles are normally pulled with a steam-powered pile extractor, but in the past this usually has required that someone run the pin of a clevis through a hole in the top of each pile. This is eliminated with the tongs.

Lowered over a pile, with their jaws locked open, the tongs grip it firmly. The tongs are lowered so that the jaws slide readily over the center web of a pile.

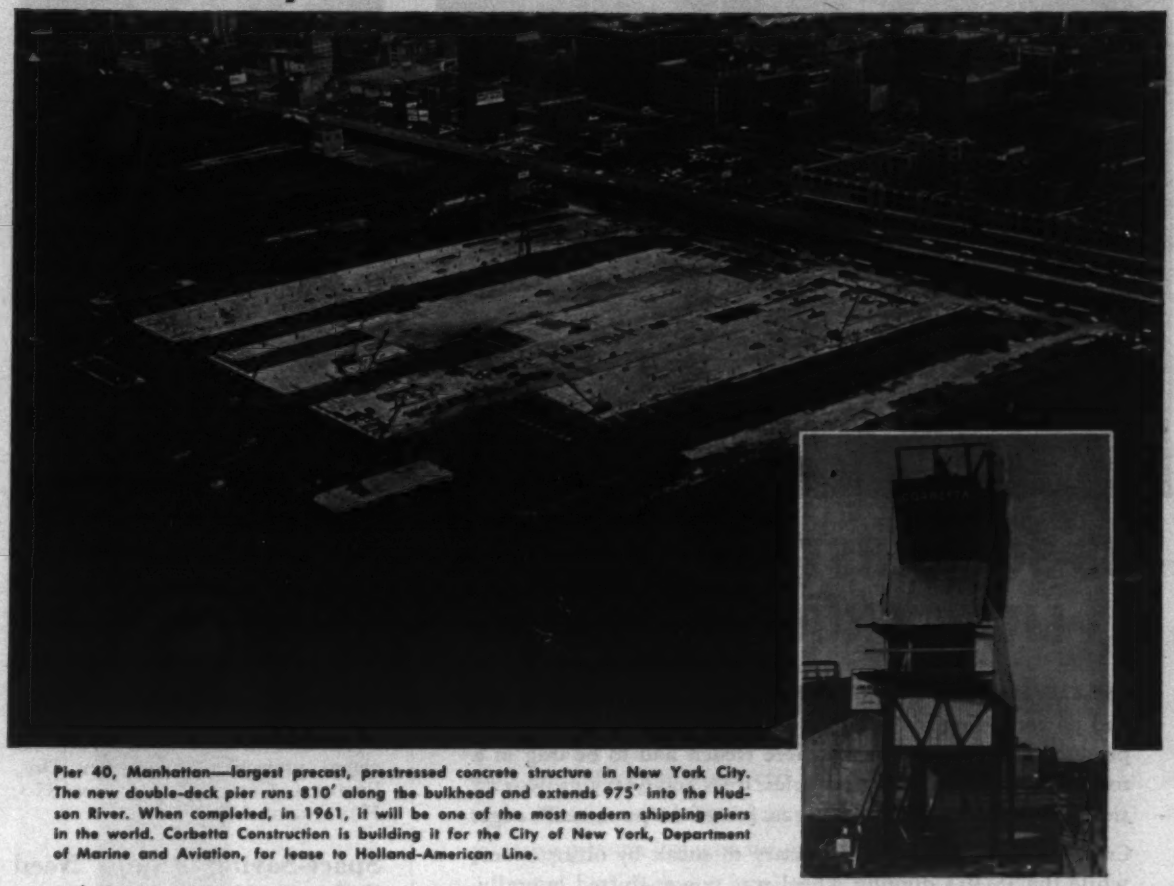
When the operator allows a bit of slack in the line, a latch is disengaged from its retaining pin, allowing the jaws to close. As the tongs are raised, the pile is pulled without difficulty.

Each jaw has 10 teeth that insure positive gripping, without damage. The tongs have a maximum opening of 1¼ in. and a minimum opening of ¼ in.

Tongs are available with 30-ton and 50-ton capacities. The 30-ton model weighs approximately 1,150 lb and the 50-ton tongs about 1,650 lb. A bracket to connect the tongs to the pile extractor is furnished to fit the type and model of extractor used, and weighs about 450 lb. HEPPENSTALL CO., MATERIALS HANDLING DIV., NEW BRIGHTON, PA.

(*New Products continued p. 48*)

CORBETTA USES ERIE CONCRETE PLANT FOR WORK ON PIER 40, LARGEST PRESTRESSED JOB TO DATE



Pier 40, Manhattan—largest precast, prestressed concrete structure in New York City. The new double-deck pier runs 810' along the bulkhead and extends 975' into the Hudson River. When completed, in 1961, it will be one of the most modern shipping piers in the world. Corbetta Construction is building it for the City of New York, Department of Marine and Aviation, for lease to Holland-American Line.

The Corbetta Construction Co., Inc., responsible for Half-a-Billion Dollars worth of contracts around the world, has pioneered many of the precasting and prestressing techniques accepted as standard in the industry.

On the Pier 40 job, Corbetta is using precast, post-tension girders 102' long, 5' 3" high and 3' 6" wide at the flange. They weigh about 72 tons each. These members, some of the biggest to date, are cast and prestressed on the job. In addition, there are areas in the project where reinforced slabs and columns are poured in place.

Understandably, the quality of concrete for this work must be precisely controlled. There can be little margin for variation. To get this kind of specification concrete, Corbetta is using an Erie Plant.

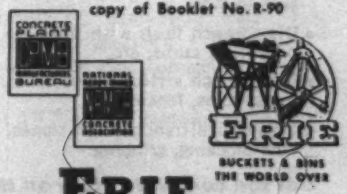
Erie is one of the few manufacturers whose equipment meets the requirements of state, federal and foreign governments.

Mr. Wallace Buhler of Corbetta, says, "We are producing 4 different concrete mixes under constant control. The slump of the concrete, which varies with each mix, also is rigidly controlled."

One of the reasons why contractors like Corbetta depend upon Erie for the kind of concrete they must have is Erie's 30 years of specialized experience. It ranges from the smallest manual scale plants, to high specification units with multiple weigh batchers, automatic presets, partial batch selection, interlocks, recorders, etc.

If you're in the market for a new plant or are thinking of remodeling your present equipment, find out what Erie can do for you in terms of speed, accuracy and low cost operation. You'll be interested to know, too, that Erie's features can save you 25% and more on total cost outlay.

Write today for a free copy of Booklet No. E-90



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JS-30'S SHIFTING WHEEL LICKS SNUG TRENCH JOB

THE CLEVELAND JS-30 TRENCHER, with instant lateral shifting and power tilting of its digging wheel, got high daily trench production on a utility job where trench had to be dug in a road shoulder hemmed in by poles, trees and heavy growth on side slopes rising sharply within six feet of the pavement's edge.

Crawlers were steered as necessary to sneak by obstructions, while the JS-30's digging wheel was power-shifted laterally, keeping trench digging right on line. Power-tilting of its digging wheel allowed the JS-30 to dig straight vertical trench with one track higher than the other on the side slopes, without blocking or cribbing.

THE JS-30—A TRENCHER OF AMAZING UTILITY

- Digging wheel power-shifts 5' from side to side
- Digs trench flush with parallel pavement, curbs, etc.
- Digs trench virtually flush with trees, poles, fences, etc.
- Digs vertical trench on side slopes, cuts blocking, cribbing
- Excavates bell holes, saves on trench width
- Digs 11"-24" wide, to 5½' deep; digs to 6' wide with power-shifting of wheel
- 100% control of all operations at operator seat.

Get the complete story on the JS-30 from your distributor

The CLEVELAND TRENCHER Co.

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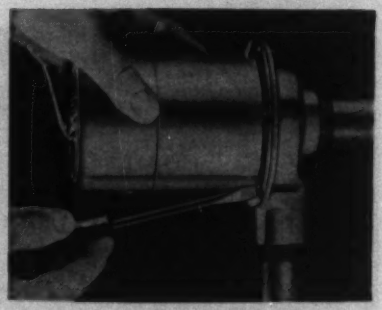
Good Everywhere



'Pump-in-a-Bean-Can' Has 800-gph Capacity

A pump, said to be compact, leakproof and low cost, weighs less than 7 lb. The maker says it is capable of pumping over 800 gph and will produce heads up to 12 ft.

Rotor, shaft and impeller form a single assembly enclosed in a stainless steel cylinder. Absence of stuffing box or mechanical seal eliminates leakage according to the maker.

The pumped fluid itself circulates in the rotor chamber and as it passes through it acts as bearing lubricant and motor coolant.

The unit is designed for pressures up to 150 psi and temperatures up to 220 F. It is available for operation on either 115 or 220 v, single phase, 50 or 60 cycles.

The unit includes automatic overload cutout protection. DYNAPUMP DIV., FOSTORIA CORP., P. O. BOX 35-3, HUNTINGDON VALLEY, PA.

Space-Saving Pumps Need Only Small Floor Space

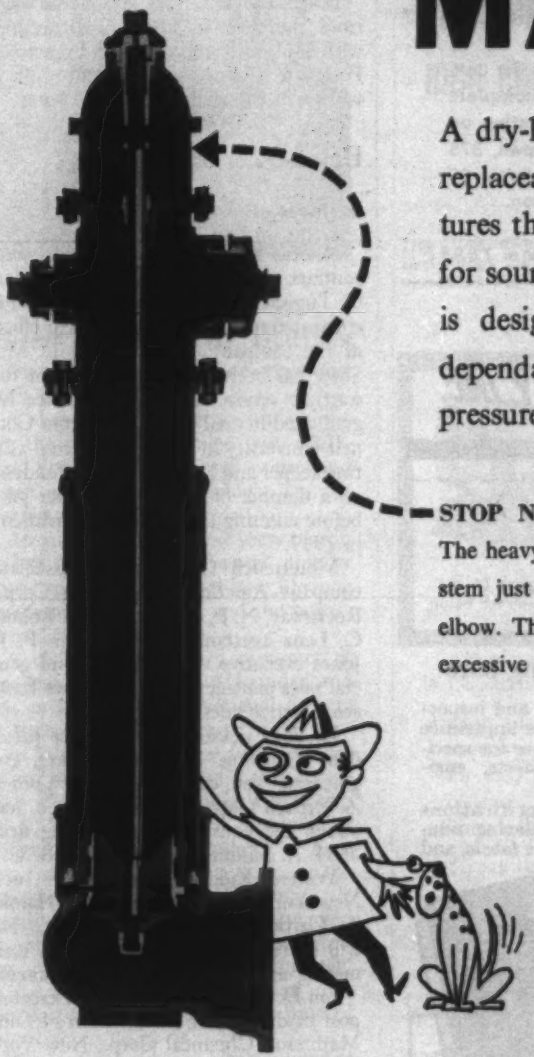
A line of vertical-design centrifugal pumps is available with capacities ranging from 50 to 600 gpm at 1,750 rpm under heads of 30 to 110 ft.

There are 12 sizes. The smallest is designed to operate under a maximum head of 80 ft. Three sizes, 80 gpm, 100 gpm and 150 gpm, operate under a maximum head of 110 ft. A 600-gpm size operates under either a 30-ft or 40-ft head.

The ball-bearing pumps are floor-mounts and flexible-coupled with mechanical shaft seal. They are designed for hot and cold water. They use less floor space than similar capacity horizontal type pumps, according to the manufacturer.

Vibration and noise are eliminated by rubber-in-shear vibration eliminator mounts, and the pump can be removed from the casing without disturbing piping connections, or replaced easily without misalignment problems. WEIL PUMP COMPANY, 1530 NO. FREMONT ST., CHICAGO 22, ILL.

PUT ALL THESE FEATURES IN ONE HYDRANT AND YOU HAVE A MATHEWS



A dry-head hydrant; adjustable nozzle levels; replaceable barrel—three of many major features that help make Mathews the one hydrant for sound community protection. The Mathews is designed to be always operable, always dependable, always ready to deliver at full pressure.

STOP NUT PREVENTS STEM FROM BUCKLING
The heavy bronze stop nut halts the downward travel of the stem just before the lower end touches the bottom of the elbow. This prevents any buckling stress on the stem when excessive pressure is put on the opening wrench.

AND ALL THESE OTHER FEATURES, TOO:
All working parts contained in replaceable barrel • Head can be faced in any direction • Replaceable head • Any nozzles you specify • Nozzle levels raised or lowered without excavating • Leakproof because stuffing box is cast integral with nozzle section • Operating thread only part requiring lubrication • Protection case of "Sand-Spun" cast iron for strength, toughness, elasticity • With bell, mechanical joint or flange pipe connections

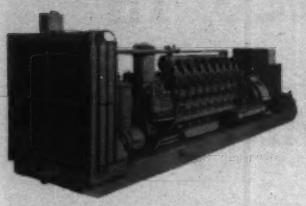
Conform to latest AWWA specifications

R. D. WOOD COMPANY

Public Ledger Building, Independence Square, Philadelphia 5, Pa.

Manufacturers also of Mathews Flange Barrel Hydrants, R. D. Wood Hydrants, R. D. Wood Gate Valves, and "Sand-Spun" Pipe (centrifugally cast in sand molds)

DIESEL POWER that's ECONOMICAL!



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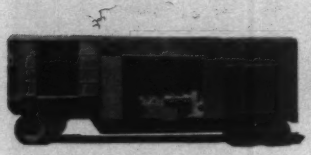
Diesel engine generator sets from 100 to 1100 kw, 125 to 1375 kva, completely portable, easily transported, quickly installed, designed for parallel operation, 60 or 50 cycles. A "Central Station" in itself, independent, self-contained.



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Our giant 300 kw mobile power trailer unit, mounted and ready to roll, a complete plant ready for immediate operation on arrival at your plant project or town, 375 kva, any standard voltage, 3 phase, 60 cycle, suitable for parallel operation.

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Written for bar setters and inspectors . . . as a manual for apprentice courses . . . and a reference for specification writers, architects, engineers, and detailers.

Contains complete specifications and instructions for placing reinforcing bars, welded wire fabric, and their supports.

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Consulting Firm Split By Death of L. C. Urquhart

Porter & O'Brien is the new name of the former consulting firm of Porter, Urquhart, McCreary & O'Brien. The name change was occasioned by the recent death of Leonard C. Urquhart.

O. J. Porter will be in charge of the firm's headquarters office in Newark, N. J. Kenneth H. O'Brien will head up the Los Angeles office.

Bruce D. McCreary has withdrawn from the firm to form a partnership with Sanford Koretsky in San Francisco. Porter & O'Brien's Sacramento office will be in the charge of J. C. Young.

Briefs . . .

Business

Walter B. Shaw, vice president and contract manager in the New York office of Turner Construction Co. has been appointed manager of the Chicago office of the company, effective July 1. Mr. Shaw has been with Turner, except for wartime service in the Navy, since he graduated in civil engineering from Cornell University in 1941. He started as a timekeeper and later was superintendent on a number of important Turner jobs before entering the contract department in 1949.

Moretrench Corp. and its associate company American Dewatering Corp., Rockaway, N. J., have appointed **Robert G. Lenz** assistant chief engineer; **P. J. Jones** executive vice president and general sales manager; and **L. B. Jones** Eastern District sales manager.

E. W. Erickson, formerly vice president in charge of manufacturing, engineering and construction for Crown Zellerbach Corp. in San Francisco, has joined the consulting engineering firm of H. A. Simons in Vancouver, B. C.

Walter Kidde Constructors, Inc., New York City, has appointed **Harold A. Cartier** senior vice president. He will be responsible for purchasing, estimating and new business development.

Ian D. Ritson takes the newly created post of director of construction of Olin Mathieson Chemical Corp., New York City. For the past five years he has been project manager for Perini Ltd., in Toronto, Canada.

Alan T. Knight, formerly executive vice president, has been elected president of Catalytic Construction Co., of Philadelphia. The post had been left vacant by the death of **T. Ellwood Webster.**

Standard Paving Co., of Chicago, Ill., has appointed **Arthur R. Ramser** as its new president.

Obituaries

David B. Steinman Dies; Noted Designer of Bridges

David Barnard Steinman died last week at 73 years of age.

A designer of long-span bridges, he left the suspension bridge over Mackinac Straits, between the upper and lower peninsulas of Michigan, as his greatest structure.

An author and in recent years a poet, he left technical books, papers, popular books and poems inspired by a life-long devotion to the purpose and the beauty of bridges.

A civil engineer and a promoter of his profession, he was a founder and first president of the National Society of Professional Engineers.

In a 50-year career that followed education at the College of the City of New York and Columbia University, D. B. Steinman designed hundreds of bridges and received hundreds of honors.

Steinman, Boynton, Gronquist & London (as his firm was recently named to include three long-time associates) was at work on the "intercontinental" bridge proposed for construction over the Bosporus in Turkey at the time of his death.

His earlier bridge projects included the Carquinez Straits cantilever in California; the Henry Hudson hingeless steel arch in New York City; the eyebar suspension bridge at Florianopolis, Brazil, in which the cables also serve as the topchord of the stiffening trusses over the central part of the span; the Kingston-Rhinecliff continuous truss over the Hudson; the Charter Oaks plate girder span over the Connecticut; and such wire cable suspension spans as Mt.

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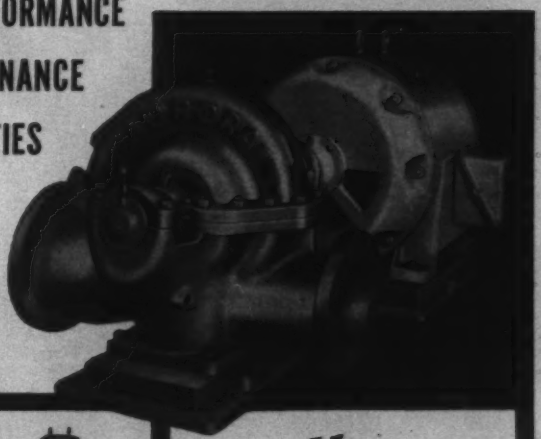
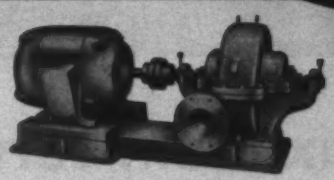
CENTRIFUGAL PUMPS

with

- SMOOTH PERFORMANCE
- EASY MAINTENANCE
- HIGH CAPACITIES



Type OJ Horizontally Split Single Stage Double Suction. Bulletin 105-B.



Type AJ Horizontally Split Two Stage Opposed Suction. Bulletin 106-B.

Type AJ Diagonally Split Two Stage

Bulletin 106-DS

- Capacities to 6000 GPM—heads to 600 feet—continuous operation.
- Both suction and discharge on bottom half of case . . . piping or motor-pump alignment never disturbed . . . lugs on top half of case for easy removal . . . by-pass in lantern ring exposed in lower half of case . . . fast, easy to inspect, clean and maintain . . . lines are back in operation fast!
- Streamlined liquid flow . . . hydraulically and dynamically balanced impellers . . . perfect alignment with in-line boring with top half of case in position . . . large standardized shaft sizes for maximum strength . . . short bearing centers for maximum rigidity and balance . . . low NPSH . . . smooth, long-term top performance . . . long life!

IDEAL FOR: Water Service • Boiler Feed • Circulating • Cooling Tower • Pressure Build-Up • Fuel Transfer • Boosting to Pressure or Elevated Tanks • Many General Applications.

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BETHLEHEM STEEL

. . . Obituaries

Hope in Rhode Island; St. Johns in Portland, Ore., Waldo Hancock in Maine; Thousand Islands over the St. Lawrence; the one over the St. Lawrence Seaway at Massena, N. Y.; and, of course, the one over Mackinac Straits in Michigan, which is longer from anchorage to anchorage than any other suspension bridge and uniquely equipped with strips of open steel grids in its deck for aerodynamic stability.

His honors included two Norman Medals and an Ernest E. Howard Award from the American Society of Civil Engineers; recognition by the National Society of Professional Engineers as founder and principal promoter in its formative years; assorted honors from 80 different countries outside the U. S.; and honorary degrees from a score of institutions both in this country and abroad.

Charles V. Foulds, 66, consulting engineer who worked on hydroelectric projects in Columbia, Afghanistan, Formosa, Venezuela and India. He was employed for many years by the Pelton Water Wheel Co., now a division of the Baldwin-Lima-Hamilton Corp., Philadelphia.

Arthur K. Adams, 72, Atlanta general contractor who built stadiums, industrial plants, Army installations and schools throughout the South. Before starting his own firm, he was associated with Robert & Co. of Atlanta, for many years. Mr. Adams was the founder and first president of the Georgia branch of the Associated General Contractors of America.

Edward T. Rice, 47, executive vice president of the Home Builders Association of Metropolitan Denver since 1955. From 1946 to 1954, he was chief underwriter of the Federal Housing Administration for Colorado.

William J. Maguire, 70, former Rhode Island Public Works Director and public buildings superintendent of Providence, R. I. He had been state chairman of the American Public Works Association.

Matthew F. Judge, 72, Delaware commissioner of the Federal Housing Administration. He became director of the Delaware FHA when this office was formed in 1952.

W. S. Baver, 81, engineer in charge of the division of sewers in the Newark (N. J.) Public Works Department until his retirement last April. He had been with the city's sewer division since 1931.

Guest Lounge of Los Altos Inn, Los Altos, California. Designer: Stan Mattson, Mountainview, California. Contractor: Surety Building Co., Inc., Cupertino, California.

Space provided: **motel office, restaurant, guest lounge, two conference rooms, two executive suites, manager's apartment.** ***Structural framing:*** **glulam floor beams spaced at 8' and 12'-6", resting upon glulam columns; glulam peaked and cambered roof beams spaced at 8'.** ***Exterior walls:*** **Palos Verdes stone, Texture One-Eleven plywood, stucco.** ***Interior walls:*** **wood paneling, gypsum board.** ***Floors:*** **carpeting over concrete on ground floor; carpeting over Tim-Deck on mezzanine floor.** ***Roof:*** **felt and tar over Tim-Deck and rigid insulation.** ***Heating:*** **gas-fired forced air.** ***Lighting:*** **incandescent.** ***Area:*** **7,309 square feet.** ***Cost:*** **$11.63 a square foot.**

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Books

Senator Kerr on Conservation

LAND, WOOD AND WATER—Sen. Robert S. Kerr. Edited by Malvina Stephenson and Tris Coffin. Introduction by Sen. Lyndon B. Johnson. 365 pages. Fleet Publishing Corp., New York, N. Y. $4.95.

The sharp-witted, acid-tongued senator from Oklahoma turns author and historian in this volume. Senator Kerr knows and loves all three of the title elements, but the emphasis in his book goes on the last—water.

The book is of more than passing consequence for two reasons: First, the author is an influential member of the Senate and is chairman of the Senate Select Committee on National Water Resources, now winding up a two-year study aimed at a legislative blueprint for nationwide water development. Second, the volume comes at a time when both political parties and, to some extent, the public at large have begun to become water-conservation minded.

The Senator lends himself to no comfortable characterization as either a liberal or conservative. However, he takes a firm stand on the historic public-vs-private power controversy, expounding on the economic reasons "why public power is a Siamese twin to water development." He states bluntly: "One usually cannot exist without the other."

He is enchanted with his own brainchild, the Arkansas-White and Red River Inter-agency Committee, which brings together representatives of the Army Engineers, the Bureau of Reclamation, Federal Power Commission, Soil Conservation Service, Public Health Service and Fish and Wildlife Service. The goal: To work out a coordinated program for 180 million acres of land drained by the three rivers.

Clearly, Author Kerr thinks this is the pattern for the future. This concept causes some despair to those who would prefer to embark upon a grand design featuring valley authorities and patterned upon the Tennessee Valley experiment.

Lest this be mistaken as aid and comfort for those who would undo the TVA complex and sell it off to private industry, hear Kerr once again.

"To one like myself, who views the debate both as a businessman and a lawmaker, the opposition to TVA is futile. We are not going to dismember it . . . We are not going to take the federal government out of the hydroelectric power business . . . [but] at the same time we are not going to permit the TVA to go beyond its present service area . . ."

Immensely readable, the book contains a wealth of general and historic information on conservation that will make it a valuable source book for anyone interested in the future of water development.

Big Volume on Small Dam Design

DESIGN OF SMALL DAMS—U. S. Department of Interior, Bureau of Reclamation. 611 pages. U. S. Government Printing Office, Washington 25, D. C. $6.50.

Instructions, standards and procedures for use in the design of small dams with heights not exceeding 50 ft above streambed are given in this clear and logical presentation.

The book is intended primarily as a guide to safe practices in the design of small dams in U. S. public works programs.

The volume furnishes small-dam design information aimed at both the small-dam specialist and the engineer less familiar with these structures. It is intended also to simplify design procedures for small earth dams.

Most material is new, but some is retained from Low Dams, a 1938 publication of the National Resources Committee.

The book discusses the purpose of dam development, flood studies, selection of the proper type of dam, and foundation and construction material. Earthfill, rockfill and concrete gravity dams are each described in considerable detail. Spillways, outlet works, stream diversion, maintenance and operation are also treated.

Seven appendixes include discussions on estimating rainfall runoff, hydraulic computations and concrete specifications.

Bureau of Reclamation engineers prepared the book at Denver under the direction of Grant Bloodgood, assistant commissioner and chief engineer of the Bureau and L. G. Puls, chief designing engineer. Important roles in completing the work were played by O. L. Rice, chief of the dams branch, H. G. Arthur, supervisor of the earth dams section of the design unit, and E. H. Larson, head of the manuals and technical records section.

History You Should Know

THE STORY OF ENGINEERING—by James Kip Finch. 528 pages, 118 illustrations. Doubleday & Co., Inc., 575 Madison Ave., New York 22, N. Y. $1.45.

Books "that every engineer should read" are few and far between, if they exist at all. But this history of engineering from 3,000 B.C. up to modern times is a candidate for that honor.

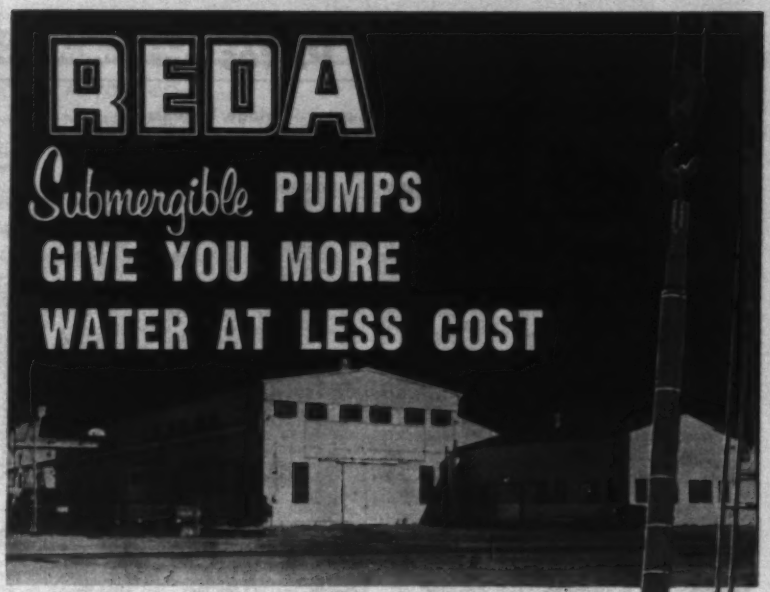
Some idea of the history of his profession is a necessary part of the education of every engineer—and particularly of the civil engineer, the architect and the construction man whose predecessors started it all. At the very least, engineers should be familiar with the achievements of their predecessors in order to appreciate fully their own obligations and opportunities. And this book has most of the characteristics to supply that familiarity. It is reasonably complete; it is interestingly written; and it is as authentic as painstaking research, scholarly analysis, intense interest, insatiable curiosity and pride in engineering can make it.

The author, James Kip Finch, who until his retirement in 1952 was dean of engineering at Columbia University, occupied a large part of his spare time during his long civil engineering teaching career with collecting material on the history of engineering. As time permitted he organized his notes, and from time to time assembled them into articles. One of the earliest of these "French Pioneers in Engineering" appeared in ENR thirty years ago.

This book is a distillation of his accumulated material. The author apologizes for "the omission of many details of interest to the engineer," made necessary by the space limitations imposed by a low-price, paper back format, but the engineering reader will find ample fare, nevertheless.

For laymen and for "young men looking forward to engineering as a career," who are of particular concern to the author, the book will be an eye opener and a stimulant.

The book is divided into 22 chapters, starting with Egypt, Mesopotamia, Greece, Rome, the Middle Ages, the Renaissance and on up to the American skyscraper. More than half of the chapters are focused on civil engineering, but the developments in mining, mechanical, electrical and chemical engineering are presented with equal care and in their proper chronological place. The "Story of Engineering" is an outstanding outline history of this professional art, and a book to be read and pondered over.



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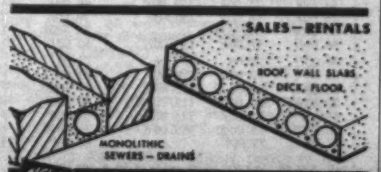

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Labor and Materials Prices — Monthly Market Quotations by ENR Field Reporters

HOURLY WAGE RATES—Base rate + fringe benefits

	Common Labor: Building	Common Labor: Heavy Const	Bricklayers	Carpenters	Struct. Iron Workers	Hoisting Engineers	Plasterers	Electrical Workers	Steamfitters	Truck drivers: 1½ T	Truck drivers: under 4 cy	Truck drivers: over 4 cy
Atlanta	$2.00	$2.00	$4.00	$3.35	$3.45+7½¢	$3.60	$3.39	$3.50+10¢	$3.80+20¢	$1.90	$2.00	$2.25B
Baltimore	2.27+7½¢	2.27+7½¢	4.20+20¢	3.60+7½¢f	4.00+17.8¢	3.35/4.05+10¢A	3.85+13¢	3.85+7½¢	3.84+17.5	2.20+7½¢	2.20+7½¢	2.20+7½¢B
Birmingham	1.85	2.00	3.95	3.15	3.65+10¢mn	3.15	3.27	3.65	3.58+12¢p	2.20+7½¢	2.20+7½¢	2.35
Boston	2.75+10¢R	2.55+10¢	3.80+20¢	3.65+10¢	4.14+20¢c	4.05+20¢	3.65+45¢	4.10+25¢	3.95+27¢R	2.70+23¢	2.70+23¢	2.70+23¢
Chicago	3.02½+7½¢	3.02½+7½¢	4.225+10¢	3.91+20¢o	4.35+16¢n	3.90+5¢	4.00+27¢	4.30	4.10+25¢	2.58+17.5¢		
Cincinnati	2.90	2.90	4.025+12¢	3.90D	3.95+10¢	3.575/3.80A	3.875+.04	4.09+.511	4.10+9½¢	2.65+62½¢	2.70+61¢	2.75+61¢
Cleveland	3.37b	3.285b	4.085+10¢b	4.11b	4.01+10¢b	4.11b	4.11a	4.175	3.91+20¢b	2.92+15¢n	2.92+15¢n	2.92+15¢n
Dallas	1.85	1.85	4.10	3.45b	3.55+7½¢	3.50B	3.75+13¢	3.625+7½¢	3.70+8½¢	1.80/2.625	1.80/2.625	1.80/2.625
Denver	2.32	2.32	4.00	3.60	3.66+10¢	3.25	3.75+12¢	4.05+47¢	3.95+10¢	2.40/2.60B	2.75B	2.90B
Detroit	2.90+34¢	2.90+34¢	3.98+33¢	3.63+46¢	4.00+27½¢	3.63+39½¢	3.75+38¢	4.00+52	3.835+17½¢	3.03 +175¢	3.03 +175¢	3.03+175¢
Kansas City	2.58	2.63	4.075	3.625	3.675	3.57	3.875	3.75+352¢	3.80+9½¢	2.555	2.555	2.63
Los Angeles	3.08+10¢	3.08+10¢	4.20+25¢	3.825+20¢	4.27½+25½¢	3.81+20¢	4.25+42½¢	4.65+46	4.33+64¢	3.365+10¢	3.365+10¢	3.555+10¢
Minneapolis	2.85	2.85	4.025	3.45	3.62	3.60	3.60+33¢	3.70+44¢	3.77+20¢	2.85	2.85¢	3.00
New Orleans	1.87½	1.87½	3.67½+7½¢d	3.25d	3.55+10¢d	3.375+7½¢d	3.27+5¢jb	3.90+7½¢	3.70+7½¢dl	3.375+7½¢d	3.375+7½¢d	3.375+7½¢d
New York	3.45+28¢c	3.45+28¢c	4.80+60¢	4.55+36¢k	4.60+65¢j	4.80+38¢	4.50+62¢	4.45+1.424	4.50+54¢	2.35+22½¢	3.40+28½¢	3.40+28½¢
Philadelphia	2.55+10¢	2.60+15¢	4.25+17¢	3.885+10¢	4.30+23¢	3.935/4.215+10¢A	4.15+20¢	4.37½+16¢	4.20+31½¢	2.45+15	2.45+15½¢	2.45+15
Pittsburgh	2.725+20¢	2.55+20¢	4.45+20¢	3.975+20¢	4.30+20¢	3.73+20¢	4.225+20¢	4.60+34½¢	4.15+20¢	2.59+20¢	2.635+20¢	2.735+20¢
St. Louis	2.875+10¢	2.875+10¢	4.05+32½¢	3.825+10¢c	3.85+7½¢	3.95	4.00+07½¢	4.11+57¢	4.27½+25½¢	2.90+15¢	3.10+15¢	3.20+15¢
San Francisco	3.045+10¢	3.045+10¢	4.40+42½¢	3.725+36¢	4.275+22½¢	3.80+28¢	3.79+63¢	4.22+29¢	4.36+72¢	3.19+11¢	3.27+11¢	3.08+11¢
Seattle	3.00	3.00	4.15+30¢	3.38+20¢	3.76+10¢	3.84+20¢	3.72+30¢	3.95+27¢	3.81+24¢	3.40+20¢	3.40+20¢	3.60+20¢
Montreal	1.75+4¢q	1.75+4¢q	2.55+6¢q	2.35+5¢q	2.55+6¢	2.35+5¢	2.65+6¢	2.45+5¢	2.62+6¢r	1.75+4¢	1.75+4¢	1.75+4¢
Toronto	2.00+8¢	2.00+8¢	3.15+13¢	2.90+12¢	3.05+12¢	3.15+13¢	3.20+21¢	3.52+14¢	3.35+13¢	2.05+15¢	2.05+15¢	2.05+15¢

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Baltimore	3.65+10¢	3.65+10¢	3.65+10¢	3.65+10¢	4.05+10¢	4.05+10¢	3.85+10¢	3.25+10¢	2.325+7½¢
Birmingham	3.15	3.15	3.15	3.15	3.15	3.15	3.15	2.77	2.05
Boston	3.52½+20¢	3.52½+20¢	3.52½+20¢	3.52½+20¢	3.90+20¢	3.90+20¢	3.52½+20¢	3.45+20¢	2.80+10¢
Chicago	3.65+5¢	3.90+5¢	3.70+5¢	3.70+5¢	4.25+5¢	4.25+5¢	3.70+5¢	3.55+5¢	3.65+5¢
Cincinnati	3.575+10¢	3.575+10¢	3.575+10¢	3.575+10¢	3.575+10¢	3.80+10¢	3.90+10¢	3.80+10¢	3.80+10¢
Cleveland	3.86b	3.86b	3.86b	3.86b	4.11b	4.11b	3.86b	3.735b	3.735b
Dallas	1.80/2.625	1.80/2.625	1.80/2.625	1.80/2.625	3.225h	3.225h	1.80/2.625	2.00	2.00
Denver	2.50	3.10	3.10	3.10	3.25	3.25	3.10	3.10	2.60
Detroit	3.63+39½¢	3.63+39½¢	3.63+39½¢	3.63+39½¢	3.63+39½¢	3.63+39½¢	3.63+39½¢	3.363+395¢	3.03+34¢
Kansas City	2.875	3.325	3.325	3.325	3.57	3.57	3.325	3.325	2.675
Los Angeles	4.11+20¢	4.11+20¢	4.11+20¢	4.21+20¢	4.21+20¢	4.21+20¢	4.21+20¢	3.33+20¢	3.39+10¢
Minneapolis	3.22	3.45		3.45	3.67	4.03	3.23	3.12	3.00
New Orleans	3.375+7½¢d	3.375+7½¢d	3.375+7½¢d	3.725+7½¢d	3.375+7½¢d	3.375+7½¢d	3.375+7½¢d	2.70+7½¢d	1.975
New York	4.175+33¢	4.175+33¢	4.175+33¢	4.30+34¢	5.05+40¢	5.05+40¢k	4.30+34¢	4.30+43¢	4.30+22¢
Philadelphia	3.63+10	3.775+10	3.775+10	3.90+10	4.345+10	4.345+10	3.765+10	3.51+10	2.40/2.50+10¢
Pittsburgh	3.72+20¢	3.72+20¢	3.72+20¢	3.72+20¢	3.92+20¢	3.92+20¢	3.92+20¢	3.43+20¢	2.60+20¢
St. Louis	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.40	3.40
San Francisco	4.01+28¢	4.01+28¢	4.01+28¢	4.14+28¢	4.31+28¢	4.31+28¢	4.21+28¢	3.48+28¢	3.475+10¢
Seattle	3.81+20¢	3.81+20¢	3.81+20¢	3.81+20¢	4.18+20¢	4.18+20¢	3.90+20¢	3.54+20¢	3.20+10¢
Montreal	1.95+4¢	2.18+5¢	2.18+5¢	2.18+5¢	2.45+5¢	2.45+5¢	2.18+5¢	2.05+5¢	2.05+5¢
Toronto	2.40+10¢	2.50+10¢	2.50+10¢	2.50+10¢	3.00+12¢	3.15+12¢	2.80+11¢	2.80+10¢	2.50+10¢

ENR Skilled Labor Average (Bricklayers, Carpenters, Iron Workers): $4.080, ENR Common Labor Average $2.734

Description of fringe benefits last appeared Sept. 17 1959. *A 1–2 drum. *B revised *C eff 7/1/60

BUILDING BOARD & LATH AND INSULATION—DELIVERED TRUCKLOAD LOTS

	Gypsum Plaster Board tapered edge per Msq ft ½"	Gypsum Plaster Board tapered edge per Msq ft ⅝"	Gypsum Board Lath plain or perf per Msq ft ⅜" x 16" x 48"	Gypsum Sheathing tongue & groove per Msq ft ½" x 2' x 8'	Fiber Board Sheathing asph impreg & coat per Msq ft sq ed	Fiber Board Sheathing asph impreg & coat per Msq ft ½" T&G	Fiber Board Insulation sq edge, paint per Msq ft ½"	Mineral Wool Insulation loose, per 40-lb bag a	Mineral Wool Insulation 3" batts per M sf	Glass Fiber Insulation loose, per 40-lb bag a	Glass Fiber Insulation 3" batts per M sf	Aluminum Foil 60# Kraft 1 side foil per roll of 250 s. f.	Aluminum Foil Expansible Blanket 2 layers fo ll per Msq ft
Atlanta	$65.00F	$55.00F	$42.50F	$68.00F	$72.00F	$127.00F	$75.00F	1.50s	$70.00F	$2.00	$80.00F	$4.77qi	...
Baltimore	54.00	47.50	35.75	55.70	65.00	108.50	69.00	1.40F	67.50F	1.60F	47.00F	4.00F	$33.50F
Birmingham	68.90H	57.00H	47.77H	75.00H	67.50H	140.50H	83.50H	1.40	70.00	2.00	65.00	3.77pG	.....
Boston	60.00mH	50.00mH	35.00mH	55.00mH	65.00H	120.00H	79.00knH	1.40bH	75.00H	.....	75.00H	5.30zHS	53.50qH
Chicago	67.00	54.00	45.00	62.00	87.00	123.00	87.00	1.85	80.00	.....	83/65!	5.25j	...
Cincinnati	52.50wH	42.85wH	33.05wH	51.16wH	77.00wH	125.00wH	72.50wH	1.45wH	62.50wH	1.45wH	62.50wH	2.85jwJ	50.00wJ
Cleveland	62.00CF	56.50CF	41.50CF	65.00CF	80.00CF	129.00CF	80.00CF	1.35	75/80H	.....	67.00	14.00ioJ	55.00J
Dallas	56.25	46.85	42.50	56.25	68.75	118.00	68.75	2.00	65.00	1.45	70.67	5.00gAG	45.00
Denver	62.50H	51.50H	43.00H	67.00H	62.50H	103.50H	77.00	1.55b	65.00wb	2.00b	65.00a	5.25	48.65
Detroit	66.00K	56.00K	42.45K	66.00K	48.50DK	85.65DK	62.50DK	1.30b	52.00	1.85b	80.00	.....	...
Kansas City	72.00H	62.00H	45.00H	.....	75.00H	122.00H	80.00H	1.40H	75.00H	1.80H	75.00H	3.60d	60.00
Los Angeles	Q 66.00F	60.50F	0.33zF	64.50F	75.00F	125.00F	80.00F	76.00BeF	83.00F	1.35s	64.00	4.40g	7.45V
Minneapolis	F 75.00F	65.00F	0.41zL	75.00F	95.00F	130.00F	78.00F	2.25yF	80.00F	2.10F	80.00F	4.25F	...
Montreal	58.00M	49.30M	37/41.50M	53.00M	64.75M	.....	58.50M	1.50M	66.00M	1.50M	66.00M	9.00qM	56.00M
New Orleans	57.00H	52.00H	45.00H	60.00H	67.00H	140.00H	80.00H	3.00L	70.00*	.....	.....	.....	52.12U
New York	65.00H	55.00H	42.50H	60.00H	78.00	124.00	78.00	1.55b	68.50k	.....	.....	4.38iH	40.00eH
Philadelphia	H 53.00	46.00	37.50	53.50	70.00	120.00	70.00	1.35	50.00	1.40	50.00	3.85	53.50
Pittsburgh	74.00K	65.00K	40.00K	63.00K	60.00K	100.00K	60.00K	1.25sK	55.00K	1.25sK	55.00K	4.25iqK	38.50K
St. Louis	55-65.00HO	48-55.00HO	40.00HO	65.00HO	70.00HO	115/120HO	75/80.00HO	125/135	65-75HO	2.00PHO	74.00HO	4.50iqHO	.....
San Francisco	60.00F	49.00F	0.36zF	61.00F	70.00F	111.00F	69.00F	1.75F	66.50F	1.75F	66.50F	5.10	60.00F
Seattle	68.00K	58.50K	51.50K	65.50K	65.00K	125.00K	71.00K	1.15tK	58.00K	1.90*pK	51.00*fKh	4.25K	46.50EK
Toronto	58.00	50.00	50.00L	67.50	79.00T	....	88.00T	1.85	72.00	.....	72.00	15.00o	46.00

** F.o.b. warehouse. *a Semi thick. *b 30# bag. *c 3 layers of foil: $54.50. *d 40# kraft paper, 5 Msf, 100/500 rolls. *e 20# sq ft bag, 4" thick. *f Full trailer loads. *g 80# kraft paper backing 400 rolls or over. *h LCL. *i 40#. *j 80#. *k 2-in. *l 2". *m 8 to 10 ton quantities. *n Distributor's siding. *o Per Msf roll. *p 32# bag. *q 500 sf. *s 35# bag. *t 26# bag *u Flame proof $75. *v 5000 sf quantity. *w F.o.b. city. *x Sq. yd. *y 30# bag. *z Spun rock wool. *A 650 sf. *B ton. *C F.o.b. plant, freight allowed. *D CL. *E 10 Msf. *F less 2% disc. 10th. *G 1/2 of 1%, 10 days. *H 2% disc, 10 days. *J 1% disc, 10 days. *K less 2% for cash. *L 9% disc, 10th mo. *M fed. tax incl. *N 1% disc, 10 days. *O add 2% sales tax. *P 50 lb. bags, *Q add 4% sales tax. *R revised. *S 45 lb. *T less 2%, 30 days. *U lots of 2606 sq. ft. *V 250 sf roll.

MEXICO CITY WAGES & PRICES

WAGES, av per week, 8 hr day (pesos)a		Aug. '60
Common labor,	building (peons)	101.50
	heavy const (peons)	136.50
Skilled labor,	carpenters 1 cl	210.00
	bricklayers 1 cl	245.00
	struct. ironworkers	315.00

*a 6 days work-extra day's pay *R revised

MATERIALS PRICES, F.o.b. City (pesos)		Aug. '60
Struct. steel shapes, fob Monterey		
I-beams, 3 x 3 x 4"	per metric ton	2025.00R
Reinf. steel, corrugated rods, per ton		
¼"-½" x 11 meters consolidada		2000.00
¾"-1" x 11 meters		1900.00

		Aug. '60
Gravel, truckload, per cu meter		
Blue gravel		35.00
Cement, std. port. (Tolteca)	per metric ton	280.00
Lumber, 2" x 4" 1st class pine 20 ft.	per M sq. ft.	2700.00
2" x 4" 2nd class pine	per M sq. ft.	2300.00

Construction Reports

Bids Asked—Low Bidders—Contracts Awarded—

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 36, N. Y., ELSIE EAVES, Manager J. A. MAHONEY, M. WETZEL, M. E. SCIORRA, MARIE MORAVSIK, ELIZABETH WERRA, ELEANOR QUERET, Reports, J. H. WEBBER, E. R. HUBER, Statistics.

NEW ENGLAND

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

STREETS AND ROADS

September 7 Maine September 9, 12 Connecticut

BUILDINGS—BA

▲ **R. I., Newport**—HOUSING—BA 9/7—U. S. A. First Naval Dist., 495 Summer St., Boston, Mass., Capehart Housing Naval Base, Anchorage and Melville, NBy 29544, Spec. No. 29544/59. $8,250,000. Extended date. Kane & Fairchild, 734 Asylum Ave., Hartford, Conn., archts. CD 7/8.

▲ **Conn., Hartford** — FEDERAL OFFICE — BA 9/29 — General Services Admin., 19 and F Sts. N.W., Wash., D. C., federal office building, Main St. $8,500,000. Douglas Orr, 111 Whitney Ave., New Haven, and Ebbets, Frid & Prentice, 892 Asylum Ave., archts. Paul D. Bemis, 36 Pearl St., Hartford, consult. engr. Henry A. Pfisterer, 111 Whitney Ave., New Haven, structural engr. CD 8/2.

BUILDINGS—LB & CA

▲ **John Capobinco**, 101 Tremont St., Boston, Mass., LB $2,070,000, SENIOR HIGH SCHOOL addn., WALTHAM, MASS. City Purchasing Agent, City Hall, Waltham, Mass. Bids Aug. 17. CD 7/27.

▲ **Bowerman Bros., Inc.**, 70 Bath St., Providence 8, R. I., CA $3,500,000, textile and coil winding machinery PLANT, WARWICK, R. I. Lessona Corp., Cranston, R. I.

▲† **K. & C. Constr. Co.**, 2 Lafayette St., New York, N. Y., LB $8,207,000 (4 bidders), 500-unit CAPEHART HOUSING at Submarine Base, Second Increment, Spec. 31970-601, GROTON, CONN. Area Public Works Office, 3rd Naval District, 90 Church St., New York, N. Y. Kane & Fairchild, 734 Asylum Ave., Hartford, Conn., archts. CD 7/11.

▲ **F. H. McGraw & Co.**, 51 E. 42 St., New York, N. Y., CA Est. over $3,000,000, STEAM PLANT for heating and air conditioning Constitution Plaza, HARTFORD, CONN. Hartford Gas Co., 233 Pearl St., Hartford, Conn. CD 8/4.

▲ **Town**, Town Hall, Hartford, Conn., rejected bids Aug. 11, HIGH SCHOOL, HARTFORD, CONN. LB $6,940,000. CD 8/15, under LB.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

September 6 Maryland

STREETS AND ROADS

September 6 Maryland September 8 New Jersey

▲ **N. J., Trenton**—BA 9/15—City, City Hall, filtration plant. $2,500,000. Bowe, Albertson & Assocs., 75 West St., New York 6, N. Y., engrs. CD 10/23.

BUILDINGS—BA

▲ **D. C., Wash.**—SCIENCE BUILDING—BA 9/22—Georgetown University, 37th and O St. N. W., Wash., D. C., science building, $4,000,000. Murphy & Loorafi, 1518 P St. N. W., archts. CD 2/12.

▲ **N. Y., North Tonawanda**—HIGH SCHOOL—BA 9/22—Bd. Educ., 236 Goundry St., high school. $3,850,000. Plans deposit $50. Pfohl, Stoll & Roberts, 185 Niagara St., Buffalo 1, N. Y., archts. CD 3/25.

▲ **Pa., Hamburg** — SCHOOL — BA 9/22—Pa. Public School Bldg. Auth., 101 S. 25th St., Harrisburg, high school for Hamburg Area Jt. School Board, Proj. 670-668, $2,280,000. Plans deposit $75. E. H. Adams & Associates, 37th St. and Perkiomen Ave., Reading, archts. CD 7/23/58.

HEAVY CONSTRUCTION—LB & CA

▲ **NEW YORK**—State Dpt. P. Wks., State Office Bldg., Albany 1, Bids opened 8/25,

N. Y.—**Lane Const. Corp.**, 965 E. Main St., Meriden, Conn., LB $1,773,570.50, est. $2,499,000 (10 bidders) b. conc. Type 1A 9.06 mi., misc. work 0.02 mi., Malone-Duane, Pt. 2A, SH 5668 Malone-Duane, Pt. 2B, SH 8085 Duane Center-Mountain Pond, SH 9007. Rte. 30. R. C. 60-139. Franklin Co.;

N. Y.—**John Arborio, Inc.**, P.O. Box 791, Poughkeepsie, N. Y., LB $6,019,320.85, est. $8,086,000 (11 bidders), 9 in. c. conc. pavt. 6.84 mi., b. conc. 0.87 mi., F.C. gran. mat. Type A 0.26 mi., T.C. gr. grav. 0.89 mi., grad. 0.38 mi., misc. work 0.15 mi., 4 H.G.S. comp. I beam, 3 sp. 118.5 ft., 2 sp. 189 ft., 4 sp. 179 ft., 4 sp. 181.3 ft., 1 br. welded plate girder 3 sp. 404 ft., 1 RRGS prestress conc. beam 3 sp., 150.8 ft., Kingston By-Pass, Part 2 (Rte. N.Y. 28 to Kingston-Rhinecliff Bridge Approach) Proj. FG-U-395(6), Rte. 28 to 9W, FASH 60-6, SH 60-7, Ulster Co.;

N. Y.—**Century Equipment Rental Corp.**, Psaty Corp. & Columbus Const. Co., Inc., L. I. City, N. Y., LB $5,786,299.10, est. $6,839,000 (7 bidders), 9 in. c. conc. pavt. 7.31 mi., b. conc. 0.38 mi., misc. work 0.32 mi., 1 RRGS plate girder 138.9 ft., 2 HG.S. comp. alum. 4 sp. 220.1 ft., 220.1 ft., 1 H.G.S. comp. I beam 4 sp. 212.5 ft., Conduit Blvd., Pt. 5, SH 5701A; Sunrise Hy. Extension, Pts. 1, 2, 2A, SH 8474, E 8438, 8470 Amityville Village; Broadway SH 1633, Proj. U-UG-947(19), Rte. 27 and 110, FARC 60-138, Nassau & Suffolk Counties;

N. Y.—**DeLillo Const. Co., Inc.**, 94 Marine St., Farmingdale, L. I., N. Y., LB $3,492,189.75, est. $4,560,000 (6 bidders), 9 in. c. conc. pavt. 4.34 mi., b. conc. pavt. 4.20 mi., misc. work 0.10 mi., 4 H.G.S. comp. beam 4 sp. 274.1 ft. 4 sp. 236.2 ft.; 4 sp. 261.3 ft.; 4 sp. 204.7 ft. Long Island Expressway, Contr. 9 (Pinelawn Rd. to Deer Park Ave.) Proj. U-862(27), FALIE 60-2, Suffolk Co. CD 7/25.

▲ **Rancocas Constr. Corp.**, 57 Whitehall St., New York, N. Y., CA Est $2,000,000 marina, boatel, swimming pool, dry dock and showrooms, Grassy Point, HAVERSTRAW, N. Y. Haverstraw Marina Corp., West Haverstraw, N. Y.

▲ **Horne Constr. Co., Inc.**, W. 143 St. and Harlem River, New York, N. Y., CA $2,197,600, wharf constr. piers, Berths 52, 54, 56 and 58, Contr. EP-110.003, ELIZABETH, N. J. Port of New York Auth., Rm. 1100, 111 Eighth Ave., New York 11, N. Y. Bids June 21. (Correction—contractors' address). CD 7/20, under CA.

▲ **Pennsylvania**—Pa. Hy. Dpt., 506 North Office Bldg., Harrisburg,

James D. Morrissey, Inc., 9118 Frankford Ave., Phila. 14, Pa., CA $3,398,672, Interstate Rte. 180, from near Green Hills Lake to Reading By-pass, 3.61 mi., four lane divided concrete hy., 60 ft. wide medial strip; two concrete arches; three pairs of twin bridges, one single bridge; ramps and service roads, Federal Aid Interstate, Berks Co. Bids July 29. CD 8/5, under LB.

PROJECTS COVERED

By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $53,000; other public works $88,000; industrial buildings $110,000; other buildings $400,000. Also Foreign projects of $1,000,000 and more in size of interest to American contractors.

By Regions & Classes of Construction

(In order of Listing)

BIDS ASKED
LOW BIDDERS
CONTRACTS AWARDED

New England
Middle Atlantic
South
Middle West
West of Mississippi
Far West

PROPOSED WORK

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Public Buildings
Mass Housing
Commercial Buildings
Industrial Buildings
Unclassified

In These Stages

PROPOSED WORK: Before and including appointment of engineers or architects.
BIDS ASKED: BA (new announcements only). For full calendar, see also preceding issues.

SOON LETS CONTRACT: SLC

LOW BIDDERS: LB On jobs below $500,000 in value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: CA Except awards to low bidders previously reported n low bidder stage.

CD dates shown are of Construction Daily Issue in which last previous report was published.

OWNERS, ENGINEERS, ARCHITECTS, CONTRACTORS are invited to report their new jobs for listing in these reports when they meet or exceed the size minimums shown above. Address these news releases to J. A. Mahoney, REPORTS, ENGINEERING NEWS-RECORD, 330 W. 42 St., New York 36, N. Y.

Symbols and Abbreviations Include:

† Federal Government
▲ Project of $1,000,000 or over.
ENR Engineering News-Record
CD Construction Daily

For additional reports see Construction Daily.

BUILDINGS—LB & CA

▲ **McConkey Builders, Inc. & R. C. Dewey, Inc.**, 3201 Delaware, Kenmore, N. Y., Own Forces, $7,000,000, Orchid Lodge 180 HOMES east of Brookfield Country Club, CLARENCE, N. Y.

▲ **Gerace & Castagna**, 2110 Northern Blvd., Manhasset, N. Y., LB $2,000,000, APARTMENT, Franklin Blvd. and Boardwalk, LONG BEACH, N. Y. Long Beach Terrace, Inc., 161-10 Jamaica Ave., Jamaica, N. Y. Samuel Paul & Seymour Jarmul, 89-51 164 St., Jamaica, N. Y., archts.

▲ **Fischer-Malik, Inc.**, 11 Moffitt Blvd., Bay Shore, N. Y., CA $2,383,779, general contract "G" DORMITORY, State University College, Long Island, STONY BROOK, N. Y. Dormitory Auth. of State of New York, Normanskill Blvd., Elsmere, N. Y. Bids July 19. CD 7/22, under LB.

▲ **Vincent J. Smith, Inc.**, Syracuse Kemper Bldg., Syracuse, N. Y., CA $2,753,000 general contract 300-500 bed COMMUNITY HOSPITAL, SYRACUSE, N. Y. Community Hospital, W. Seneca Tunpike, Syracuse, N. Y. Grand total $4,900,593, CD 6/3, under LB;
Edward Joy Co., 905 Canal St., Syracuse, N. Y., CA $516,923, plumbing for Community Hospital (Syracuse, N. Y.),
Kenneth A. Taylor, Inc., P. O. Box 186 Eastwood Sta. Syracuse, N. Y., CA $975,451, heating and ventilating for Community Hospital (Syracuse, N. Y.),
BEC Electric Co., P. O. Box 41, Eastwood Sta., Syracuse, N. Y., CA $655,219, electrical work for Community Hospital (Syracuse, N. Y.).

▲ **Herzog Getter Enterprises**, 816 Ridgewood Rd., Millburn, N. J., Owner Builds, $2,000,000, 100 HOUSES, Daniel St., ROCKAWAY, N. J. Elias K. Herzog, 258 Broadway, New York, N. Y., archt.

▲ **Whiting-Turner Contg. Co., Inc.**, 6299 Charles St., Baltimore, Md., CA Est. $2,000,000, STOCK HOUSE, BALTIMORE, MD. Hamm Brewing Co., 1101 S. Conkling St., Baltimore, Md. Bids July 22. CD 7/21.

▲ **Franklin Builders Homes, Inc.**, 507 Philadelphia Pike, Wilmington, Del., Separate Contracts $2,500,000. RESIDENTIAL DEVELOPMENT (250) Brandywine Hundred, North Ridge Development, TALLEYVILLE, DEL.

▲ **Wallace Engineering & Construction Co.** Lancaster and Martin Aves., Bryn Mawr, Pa., LB $2,029,000 CLUB HOUSE, TALLEYVILLE, DEL. Brandywine Raceway Assoc., Concord Pike, Wilmington, Del. Lionel Levy, 158 E 35th St., New York N. Y. archt. Dr. Jacob Feld, 60 E 23rd St., New York N. Y.

▲ **Robino Development Co.**, McCanons Ch. Rd., Wilmington, Del., Separate Contracts, $4,400,000, Sherwood Park RESIDENTIAL DEVELOPMENT, (250) Kirkwood Highway, WILMINGTON, DEL. Howard Greenhouse, 1009 Park Place, Wilmington, Del., archt.

▲ **Blake Constr. Co.**, 33 E. St. S.W., Wash., D. C., LB $2,748,000, (8 bidders), Combined Bid Centerville Hall, WOMEN'S DORMITORY; Belair Hall and Chestertown Hall, MEN'S DORMITORIES, COLLEGE PARK, MD. Maryland University, College Park, Md. Bids Aug. 18. CD 8/10;
Baltimore Contractors, 711 South Central Ave., Baltimore, Md., LB $2,020,000, (7 bidders), Centerville DORMITORY (College Park, Md.);
H. O. McAllister, 11316 Fern St., Silver Spring, Md., LB $873,402, (10 bidders), Belair and Chestertown DORMITORIES (College Park, Md.).

▲ **Johnson & Johnson**, 22 W. Madison, Chicago, Ill., CA Est. $5,000,000, design and construct GYPSUM PLANT, CLAYMONT, DEL. Barrett Div. Allied Chemical Co., 40 Rector St., New York 6, N. Y. CD 5/10.

SOUTH

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

September 9 Kentucky

STREETS AND ROADS

September 9 Kentucky September 15 Florida
September 28 Virginia

▲ **Fla., Miami**—BA 9/13—Bd. Comrs. Dade Co., Courthouse, dredging in Biscayne Bay, incl. 3,000,000 cu. yds. excav. and fill work, $3,500,000. Plans deposit $30. Ewin Eng. Corp., DuPont Plaza Center, engrs.

BUILDINGS—BA

▲† **Tenn., Oak Ridge**—BIOCHEMISTRY LABORATORIES, etc.—BA 9/15—U. S. Atomic Energy Comn., Box E, low level radiation experiment facilities and biochemistry laboratories, at Oak Ridge National Laboratory. CD 8/22.

HEAVY CONSTRUCTION—LB & CA

▲ **S. J. Groves & Sons Co., Wesley-Temple Bldg.**, Minneapolis, Minn., CA Total Est. 2 dams $45,000,

(Continued on page 60)

"'Live track' power steering rock...SO WE KEEP OUR TD-25

—Asheville Contracting Company,

Shale and blue granite rock make up 85% of the 550,000-cu. yd. of roadway excavation on this contract —5.18 miles of Blue Ridge Parkway construction, for the United States Department of Interior.

That's why Asheville Contracting Company places maximum reliance on their "rock-movers' special": king-sized International crawler power! Where the going's too tough or job progress is too slow and costly with big clutch-steered crawlers, "Asheville's" new 230-hp TD-25 and two veteran TD-24's take over—and "run interference."

"International 'live track' power steering moves more dirt and rock," states M. H. Reighard, Superintendent of rock operations for "Asheville." "Therefore, we keep our TD-25 and TD-24's on trail-blazing and pioneering. The 'live track' feature keeps the blade in the material and makes steep work safer. TD-25 balance enables working 'almost straight up' on mountainous terrain."

Exclusive, years'-proved International Planet Power-steering gives you full-time live power on both tracks to handle full loads on turns as well as straightaways. Load-limiting "dead-track drag" is eliminated. And

moves more PIONEERING"

Asheville, No. Carolina

"live track" power-steering is combined with on-the-go, Hi-Lo power-shifting that lets you match power to load instantly, for full-speed cycles. You do away with time-wasting "gear-shift lag!"

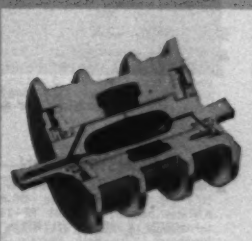
New TD-25 seven-roller tracks are strength-matched to the full effort of the high-torque, 230-hp turbo-charged Diesel engine! The "25" is platformed on shock-resistant, double-box-beam track frames—smoothly carried on International's dual-protected Dura-Rollers, the track rollers that make 1,000-hr. lube intervals practical!

As standard equipment at no extra cost, the TD-25 gives you exclusive, combined Planet Power-steering and Hi-Lo on-the-go power-shifting. And you get this work-speeding design advantage in torque-converter or direct drive model. Here, Asheville's "25" operator is ready to "shift-up" to keep the load on the move.

Power-steer and power-shift the TD-25 with king-sized loads—around curves, upgrade, anywhere! Compare planet-powered "25" ability to deliver full-load capacity, full-time—to outearn other big rigs up to 50%—blading rock, benching, push-loading, mass-production dozing (where fast reverse and decelerator action count), ripping shale! Let your International Construction Equipment Distributor demonstrate!

Even with an enormous offset load of shot-rock there's no "bank-nosing;" no sluing. The TD-25 operator simply operates the load-side track in high-speed range—the other track in low-speed range. Result: full-capacity, straight-ahead performance—the same as the "25" gives on benching, bank-cutting, or side-casting!

Heavy-duty TD-25 Dura-Rollers feature thick, deflection-proof shells; full-floating, precision fitted seals; king-sized lube reservoirs; and exclusive pressure-relief passages that protect seals from overlubrication. These minimum-maintenance track rollers give you practical 1,000-hr lubrication intervals!



International®
Construction Equipment

International Harvester Co.,
180 North Michigan Ave., Chicago 1, Ill.
A COMPLETE POWER PACKAGE

(Continued from page 57)

000, (12 bidders) 920 ft. long, 90 ft. high, concrete gravity type Leesville Dam, Roanoke River (lower dam of 2 dam hydro-electric project), VIRGINIA. Appalachian Power Co., 40 Franklin Rd., Roanoke, Va. CD 9/4/58.

▲† **Sylvania Electric Products Co.**, 1740 Broadway, New York 19, N. Y., CA $3,200,000, electrical equipment for telescope at Naval Radio Research Station, SUGAR GROVE, W. VA. Dist. P. Wks. Office, Fifth Naval Dist., Naval Base, Norfolk 11, Va. CD 9/28.

▲ **Atlantic States Constr. Co.**, 1958 Monroe Dr. N. E., Atlanta, Ga., LB $3,996,608, est. $4,000,000, (9 bidders), 3 shipping berths, Garden City terminals, SAVANNAH, GA. Georgia State Ports Auth., P. O. Box 1039, Atlanta, Ga. Bids Aug. 16. CD 8/12.

▲† **James P. Cross Constr. Co.**, P.O. Box 287, New Iberia, La., LB $2,119,624, Section 2, Structures 68, 82 and 83, Canal 41-A, Highlands Co., ENG-08-123-61-2, FLORIDA. U. S. Eng., P.O. Box 1970, Jacksonville, Fla. Bids Aug. 15. (Correction—low bidder's price.) CD 8/22, under LB.

BUILDINGS—LB & CA

▲ **Daniel Constr. Co. of Virginia**, 1010 N. Thompson St., Richmond, Va., CA PLANT ADDN. to mfg. caprolactam polymer, tire yard, other fabrics, CHESTERFIELD, VA. Allied Chemical Corp., 60 Broadway, New York 6, N. Y. United Engineers & Constructors, Inc., 1401 Arch St., Phila., Pa., engrs. CD 4/20.

▲ **Daniel Constr. Co. of Virginia**, 1010 N. Thompson St., Richmond, Va., CA PLANT ADDN. to mfg. caprolactam monomer, warehouse, office, HOPEWELL, VA. Allied Chemical Corp., 61 Broadway, New York 6, N. Y. Lummuns Co., 385 Madison Ave., New York, N. Y., engr. CD 3/31.

▲ **S. J. Curry & Co.**, P.O. Box 1436, Albany, Ga., CA $2,017,000, HOSPITAL, NEWNAN, GA. Coweta County Hospital Auth., Newnan, Ga. Bids Aug. 2. CD 8/12, under LB.

▲ **Robert L. Turchin, Inc.**, 1835 Purdy Ave., Miami Beach, Fla., LB $3,716,469, 148 suite, Executive House APARTMENTS, MIAMI BEACH, FLA. 5255 Collins Ave. Corp., 420 Lincoln Rd., Miami Beach, Fla. Bids Aug. 12. CD 8/11.

▲ **Kingbay Constr. Co.**, 5603 Lyndale Ave. S., Minneapolis, Minn., CA Est. $3,500,000 SHOPPING CENTER, Oxmoor Rd. and Green Springs Hy., BIRMINGHAM, ALA. K. & H., Inc., 5603 Lindale Ave. S., Minneapolis, Minn. Willard Thorsen, 1410 S. Holdridge Terrace, Minneapolis, Minn., archt.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

September 7 Michigan

STREETS AND ROADS

September 7 Michigan — September 13 Ohio

▲ **Ill., Chicago**—UTILITIES—BA 9/9—Dpt. Purchases, City Hall, Zone 2, No. 80.85-80-124, RB 27, Phase 1, utilities, Chicago O'Hare International Airport, Park Ridge. $3,750,000. Naess & Murphy, 224 S. Michigan Ave., Zone 4, engr. CD 12/3/57.

▲† **Michigan**—BA 9/13—U. S. Eng., 1101 Washington Blvd., Detroit, Zone 26, dredging Saginaw River from D. & M. R. R. Bridge to 24 ft contour in Saginaw Bay, Bay City, CIVENG-20-064-61-5. Under $3,500,000. Plans deposit $1.20. (Correction—bid date). CD 8/15.

BUILDINGS—BA

▲ **Ill., Chicago**—HOSPITAL—BA 9/20—Children's Memorial Hospital Development Program, 104 S. Michigan Ave., Zone 3, 5 story Children's Memorial Hospital wing addn. $5,500,000. Schmidt, Garden & Erickson, 104 S. Michigan Ave., Zone 3, archts. CD 4/20.

HEAVY CONSTRUCTION—LB & CA

▲ **Mayfair Constr. Co.**, 5660 N. Jersey Ave., Chicago, Ill., LB $4,840,600, No. 80.85-60-116, Transworld Airlines hangar, Contract RB-19, Chicago O'Hare International Airport, Park Ridge, CHICAGO, ILL. Dpt. Purchases, City Hall, Chicago 2, Ill. Bids Aug. 19. CD 7/27.

▲ **MICHIGAN**—State Hy. Dpt., 732 Mason Bldg., Lansing, Zone 26, Bids opened 8/19,

Mich.—**Holloway Constr. Co.**, 29350 Joy Rd., Livonia, Mich., LB $1,968,100, 5 mi. freeway incl. nine structures from M-72 at Grayling north to M-93, Crawford Co.;

Mich.—**Pierson Contrg. Co.**, 200 Eddy Bldg., Saginaw, Mich., LB $1,048,296, 4.8 mi. freeway incl. two structures from M-93 north to County Rd. 612, Crawford Co. CD 8/5.

BUILDINGS—LB & CA

▲ **Robert E. McKee General Contractor, Inc.**, 221 Washington Ave., Santa Fe, N. M., CA $7,145,000, (8 bidders), ADMINISTRATION, DORMITORIES, FACULTY, CHAPEL, RECTORY, SWIMMING POOL, ANNEX BLDGS., etc. MOUNT ST. JOSEPH, O. College of Mount St. Joseph-on-the-Ohio, Mount St. Joseph, O. Bids Aug. 16. CD 7/20.

▲ **Mauro Constr. Co.**, 2667 13th St., Akron, O., Owner Builds, $5,000,000, Section 1, 350 HOMES, Renee Estates, northwest area, off Young Rd. between Call and Norton Rds., STOW, O.

▲ **George Bahre Co.**, 3519 Southeastern St., Indianapolis, Ind., CA Est. $3,500,000, MUSIC HALL, Butler University Campus, INDIANAPOLIS, IND. Directors Butler University 4600 Sunset St., Indianapolis, Ind. Awarded Aug. 10. CD 7/26.

▲ **Aigot B. Larson**, 3837 W. Lake St., Chicago, Ill. LB $2,000,000, NURSES HOME and SCHOOL, Commonwealth Ave. and Surf St., CHICAGO, ILL. St. Joseph Hospital, 2100 Burling St., Chicago, Ill. Bids Aug. 26. CD 7/27.

▲ **S. N. Robbins Co.**, 4341 W. Peterson Ave., Chicago, Ill., CA $3,000,000, DEPARTMENT STORE, 56th St. and Cicero Ave., CHICAGO, ILL. Midway Shopping Wieboldt Stores, Inc., 820 Davis St., Evanston, Ill. Sidney, Morris & Assocs., 134 N. LaSalle St., Chicago 2, Ill. archts.

▲ **J. L. Simmons & Co., Inc.**, 506 S. Wabash St., Chicago, Ill., CA Est. $5,000,000, meat packing PLANT, ROCHELLE, ILL. Swift & Co., U. S. Yards, Chicago, Ill. CD 10/20.

▲ **J. P. Cullen & Son**, Janesville, Wis., CA $2,614,599, general contract, CORRECTIONAL INSTITUTION, FOX LAKE, WIS. State Dpt. P. Welfare, Madison, Wis. Bids June 2. CD 6/7, under LB.,

J. F. Ahern Co., 55 N. Macy St., Fond du Lac, Wis. CA $810,308, plumbing, sewerage, heating and ventilating work for Correctional Institution (Fox Lake, Wis.)

MISSISSIPPI TO ROCKIES

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

September 8 Colorado, Kansas — September 20 Texas

STREETS AND ROADS

September 8 Kansas — September 20, 21 Texas

▲† **Kansas**—BA About 9/30—U. S. Eng., P. O. Box 61, Tulsa, Okla., First Stage, embankment and excav. outlet works, Council Grove Dam, Grand (Neosho) River, IFB CIVENG 34-066-61-7. $2,000,000 CD 9/29/59.

BUILDINGS—SLC

▲ **Tex., Port Arthur**—RESEARCH CENTER etc.—Texaco Inc., 401 W. 19th St., soon lets contract, Contract No. 1, research center, $7,000,000; Contract No. 2, enclosed storage $250,000; Contract No. 3, service shop, $250,000, all adjacent to refinery. CD 6/23.

HEAVY CONSTRUCTION—LB & CA

▲† **Electric Properties Co.**, 1901 Y St., Lincoln, Neb., CA $1,913,500, foundations, furnishing, erecting steel towers for 136 mi. Garrison-Jamestown 230 KV transmission line Missouri River Basin Proj., Spec. DC 5355, Mercer, McLean, Burleigh, Kidder and Stutsman Counties, NORTH DAKOTA. Bureau Reclamation, Dpt. Interior, Fargo, N. D. Bids July 26, awarded Aug. 18. CD 8/1, under LB.

▲ **TEXAS**—State Hy. Comm., Austin, bids opened 8/17,

Austin Bridge Co., P. O. Box 1590, Dallas, Tex., LB $3,285,081, bridges, Hy. I.H. 45, 0.604 mi., Proj. I 45-1(25), Harris Co. CD 7/29, under Streets and Roads.

▲ TEXAS—State Highway Comm., Austin,

Tex.—**Austin Bridge Co. & Austin Road Co.**, P. O. Box 1590, Dallas, Tex., CA $4,290,707, grading, structures, and concrete paving, 3.567 mi. Hy I H 610, Proj. J 1057(12), 1610-7(26), Harris Co.,

Tex.—**Killian-House Co.**, 4600 Broadway, San Antonio, Tex., CA $2,072,696, grading, structures, fl. base, concrete and b. conc. paving I H 35, Proj. I 35-2(21), Bexar Co.;

Tex.—**R. C. Buckner**, P. O. Box 609, Jacksonville, Tex., CA $823,998, grading, structures 8.179 mi., Hy I 20, Proj. I 20-6(21)521, Van Zandt Co. Grand Total $7,187,401. Bids Aug. 16, awarded Aug. 23. CD 8/19.

▲ **W. E. Claycomb & Son Constr. Co.**, Cody, Wyo., CA $2,750,000, 96 mi. gasoline pipe line, Cody, Wyo. to Billings, Mont., WYOMING and MONTANA, Husky Pipeline Co., Cody, Wyo. CD 10/28/58, under Wyo., Cody, Industrial Buildings.

▲ **H. C. Price Co.**, Box 1111, Bartlesville, Okla., CA Est. $2,500,000, 65 mi. trunk line and gathering system between Collbran and Montrose; CA Est. $500,000, natural gas distributing system, Collbran and Montrose, et al, COLORADO. Rocky Mountain Natural Gas Co., Zook Bldg., 435 W. Colfax Ave., Denver, Colo.

BUILDINGS—LB & CA

▲ **Hunkin-Arundel-Dixon**, 1740 E. 12 St., Cleveland 14, O., CA Est. $120,000,000, expansion TACONITE PROCESSING PLANT at E. W. Davis-Works, SILVER BAY, MINN. Reserve Mining Co., Silver Bay, Minn. (Republic Steel Corp., 1405 Republic Steel Bldg., Cleveland, O. and Armco Steel Corp., 1939 Armco Ave., Middletown, O.).

▲ **Robert Edwards, Inc.**, St. Peters, Mo., Owner Builds, Over $2,000,000. 300 addnl. RESIDENCES, Steeple Chase Subdivision, Hy. 70, ST. PETERS, MO.

▲† **Beezina Constr. Co.**, 709 Steel St., Box 1592, Rapid City, S. D., LB $3,134,050, est. $3,000,000, 190 Capehart HOUSING units, Ellsworth Air Force Base, RAPID CITY, S. D. Base Procurement Office, Ellsworth Air Force Base, Rapid City, S. D. CD 8/2.

▲ **C. Beck & Co.**, 503 First Nat'l Bank Bldg., Dallas, Tex., CA Est. $3,000,000, 10 story APARTMENT, Turtle Creek and Gilbert Sts., DALLAS, TEX. Owner, c/o Hudson & Hudson, Mercantile Bank Bldg., Dallas, Tex. CD 8/22.

▲ **Leavell Investment Co.**, 1900 Wyoming Ave., El Paso, Tex., LB Est. $5,000,000-$10,000,000, construct-lease POST OFFICE facility, HOUSTON, TEX. General Services Admin., U. S. Post Office Dpt., 1114 Commerce St., Dallas, Tex. Bids Aug. 16. CD 7/19, under Public Buildings.

▲ **Manhattan Constr. Co. of Texas**, 1811 Crawford St., Houston, Tex., CA $9,295,800, City-County HOSPITAL, HOUSTON, TEX. City of Houston, City Hall, and Harris County, Courthouse, Houston, Tex. CD 5/2, under LB.

▲ **Milo, Inc.**, Miles Strickland, DePaul and Homestead Sts., Houston, Tex., Owner Builds, $2,515,475, 282 DWELLINGS, Norwood Manor, HOUSTON, TEX. CD 7/5.

▲ **Mead & Mount Const. Co.**, 1560 Denver Club Bldg., Denver, Colo., CA Approx. $5,500,000 super-structure 12 story; 280,000 sq. ft. PUBLIC SERVICE OFFICE 15th and Welton Sts., DENVER, COLO. Public Service Co., 15th and Champa, Denver, Colo. CD 7/16/58.

FAR WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

September 14 California

STREETS AND ROADS

September 7 Nevada — September 9, 16 Arizona

September 9 Oregon — September 13 Washington

September 14, 20, 22 California

▲ **Calif., Santa Ana**—BA 9/28—Orange County Flood Control Dist., Court House, Carbon Creek Channel, Part 2. $1,500,000. CD 7/3/56.

▲† **California**—BA 10/25—U. S. Eng., 1209 B St., Sacramento, rockfill Hogan Dam, Calaveras River, incl. four earthfill dikes, structures, 1,674,000 cu. yd. quarry excav., 354,000 cu. yd. unclassified excav., etc. NE of Stockton. Spec. 2670, ENG-04-167-61-2. $13,700,000. CD 9/15/59.

BUILDINGS—BA

▲ **Calif., Anaheim**—SCHOOL—BA 9/20—Anaheim Union High School Dist., 811 West Center St., Magnolia High School. $2,093,000. CD 12/1/59.

▲† **Ariz., Fort Huachuca**—HOUSING—BA 9/22—U. S. Eng., 751 S. Figueroa St., Los Angeles 17, Calif., 200 unit Capehart Housing Project, ENG-04-353-61-7. $3,000,000. CD 4/8/59.

▲† **Calif., Martinez**—HOSPITAL—BA 10/18—Office of Director, Constr. Service, Veterans Admin., Wash. 25, D. C., 4-story, basement, 345,000 sq. ft. Veterans Administration Hospital, off Muir Rd. near Arnold Way, Contra Costa Co. $11,714,000. Geo. S. Nolte, 1207 Arroyo Way, Walnut Creek, Calif., Charles Luckman Assocs., Confer, Willis & Anderson, Hertzka & Knowles, 366 40 St., Oakland, Calif., archts.

HEAVY CONSTRUCTION—LB & CA

▲ **WASHINGTON** — State Hy. Comm., Transportation Bldg., Olympia, Bids opened 8/23,

Yuba Erectors, Div. Yuba Consolidated Industries, Inc., foot of 26 Richmond St., San Francisco, Calif., LB $3,445,000, (4 bidders), modify and strengthen Hood Canal Floating Bridge for Washington Toll Bridge Authority. Howard, Needles, Tammen & Bergendoff, 1805 Grand St., Kansas City, Mo., consult. engrs. CD 8/8.

▲† **J. A. Jones Constr. Co.**, 1117 2nd Ave. Bldg., Seattle, Wash., CA $4,450,000, excavation of navigation channel Ice Harbor Lock and Dam near Pasco, CIVENG-45-164-61-3, WASHINGTON. U. S. Eng., City-County Airport, Walla Walla, Wash. Bids Aug. 17. CD 8/19.

▲ **CALIFORNIA**—State Div. Hys., 1120 N St., Sacramento, Bids opened 8/24,

Calif.—**Charles L. Harney, Inc.**, 575 Berry St., San Francisco 7, Calif., LB $3,921,424 (4 bidders) grading, paving 1.1 mi. 6 lane southern freeway interchange at Alemany Blvd. incl. 4 bridges, 1 pedestrian overcrossing, 10 concrete retaining walls, storm sewers, San Francisco Co., CD 7/20;

Calif.—**Clifford C. Bong**, 123 North Third Ave., Arcadia, Calif., LB $2,490,427 (6 bidders), grading, paving, 4 lane freeway, 7 bridges 3.9 mi. US Hy. 101 between 0.4 mi. north of State Sign Rte. 36 and 0.3 mi. north of Fortuna to by-pass Fortuna, Humboldt Co. CD 7/27.

BUILDINGS—LB & CA

▲ **Johnson, Drake & Piper, Inc.**, 4821 Tidewater Ave., Oakland, Calif., LB $8,140,000, (5 bidders), 20 bldgs. CONSERVATION CENTER near Susanville, Lassen Co., State Dpt. Corrections, W. O. 4304GC-11, CALIFORNIA. State Div. Architecture, 1120 N St. Sacramento, Calif. Bids Aug. 23. CD 7/15.

▲ **Stolte Inc. and Daniels & House Constr. Co.**, 8451 San Leandro St., Oakland, Calif., CA $2,159,441, 2 story, 70,000 sq. ft., rein.-con. HOSPITAL, CAR-

MEL, CALIF. Peninsula Community Hospital, chr. Bldg. Comm., c/o Edward D. Stone, archt., 350 Waverly St., Palo Alto, Calif. Bids July 12. CD 7/18, under LB.

▲ **Volk-McLain Co.**, P. O. Box 187, Concord, Calif., SAN RAMON VALLEY ESTATES, 650 homes, 120 unit apartment, shopping center, stores. Owner Builds. $15,000,000 for first year. Ultimate $250,000,000, 5-8 years. Grading and street work underway, DUBLIN, CALIF.

▲† **Alcan Pacific Co.**, 1921 Stockton Blvd., Sacramento 16, Calif., LB $7,698,000, 500 unit CAPEHART HOUSING, No. 3, ENG-60-38, FORT ORD, CALIF. U. S. Eng., 180 New Montgomery St., San Francisco, Calif. Bids Aug. 11. CD 8/16, under LB.

▲† **Aloha Constr. Co.**, 3324 S. La Cienega Blvd., Los Angeles, Calif., CA $8,110,415, 500 unit CAPEHART HOUSING, 2nd Increment, Naval Auxiliary Air Station, NBy 29277, LEMOORE, CALIF. Dist. P. Wks. Office, 12th Naval Dist., San Bruno, Calif. Bids June 1. CD 6/6, under LB.

▲ **Gust K. Newberg Constr. Co.**, 600 South Lafayette Park Pl., Los Angeles, Calif., LB $5,927,000 (6 bidders) MUNICIPAL CONVENTION and EXHIBIT HALL, LONG BEACH, CALIF. City, City Hall, Long Beach, Calif. Bids Aug. 17. CD 7/7.

▲ **Sunset International Petroleum Corp.**, 400 S. Beverly Dr., Beverly Hills, Calif. **Tavares Development Co.**, development agent, Box 967, LaMesa, Calif., SAN CARLOS COMMUNITY development expanded to 8,000 homes, apartments, 11 schools, 2 shopping centers, churches, country club, SAN CARLOS, CALIF. $200,000,000 (Ultimate) Owner Builds. 6-10 years to complete. (Started in 1958 as 2,000 home project. Purchased from Tavares Development Co. Started to date 541 houses at $5,542,504. Also reported apartments 7/26, country club 5/10. Total schedule for 1960 1,000 homes). E. H. Fickett, 7421 Beverly Blvd., Los Angeles, Calif., archt. for country club and golf course.

CANADA

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

September 8 British Columbia

STREETS AND ROADS

September 21 Ontario

BUILDINGS—BA

▲ **Ont., Toronto**—HOSPITAL—BA 9/13—Municipality of Metropolitan Toronto, 67 Adelaide St. E., 9 story, rein.-con. Riverdale Hospital, Broadview Ave., $5,000,000. Plans deposit $200. Chapman & Hurst, 416 Moore Ave., archts. C. D. Carruthers & Wallace Consultants Ltd., 92 Yorkville Ave., engrs. CD 4/4.

▲ **Ont., Goderich**—HOSPITAL—BA 9/14—Dpt. P. Wks., Parliament Bldgs., Toronto, hospital for mentally retarded children, incl. 1 story cottages with 2 story wings, 2 story block structure administration. $3,500,000. Extended date. CD 8/3.

HEAVY CONSTRUCTION—LB & CA

▲ **Ball Brothers Ltd.**, 824 Victoria St. N, Kitchener, Ont., CA $4,455,216, first phase, 10 story, penthouse, 52x190 ft. rein.-con., brick, block HOSPITAL, KITCHENER, ONT. St. Mary's Hospital, Queensmount Crescent, Kitchener, Ont. Bids July 27. CD 8/15, under LB.

AMERICANS ABROAD

BUILDINGS—LB & CA

▲ **General Electric Co.**, River Rd., Schenectady, N. Y., U.S.A., CA $18,853,000, 100,000 kw. thermal POWER PLANT, near PUSAN, KOREA. Government of South Korea, Seoul.

▲† **AMF Atomics Div., American Machine & Foundry Co.**, 261 Madison Ave., New York, N. Y., U.S.A., CA Est. $3,500,000, 5 megawatt pool-type REACTOR at Pakistan Institute of Nuclear Science & Technology, near RAWALPINDI, PAKISTAN. Pakistan Atomic Energy Comn., Karachi, Pakistan.

PROPOSED PROJECTS

WATER SUPPLY

▲ **Ill., Rock Island**—City, City Hall, WW system imprvs., incl. intake, two storage installations, distr. lines, treatment facilities. $2,000,000. Missman, Stanley, Farmer & Assocs., 319 25th St., archts. Bids soon. CD 4/30/59.

SEWERS, WASTE DISPOSAL

▲ **O., Strongsville**—City, City Hall, bond election Nov. 8, sewers, $2,630,000. CD 11/9.

▲ **S. C., Charleston**—City, City Hall, sanitary sewer lines, Albemarle and Wappoo Rds., parallel to Atlantic Coast Line R.R. $2,500,000. CD 8/11/44.

BRIDGES

▲ **Que., Sherbrooke**—City, City Hall, bridge, over St. Francois River, Montreal and Terrill Sts., $3,000,000. CD 2/28/46.

STREETS AND ROADS

▲ **Hawaii, Hilo**—Hawaii County, Hilo, hy. imprvt. $4,100,000.

▲ **Hawaii, Lihue**—Kaui County, Lihue, Kauai imprvt. and constr. highways and roads. $2,500,000.

▲ **Hawaii, Wailuku**—Maui County, Wailuku, hy. constr. and imprvt. $3,400,000.

▲ **NEW YORK**—State Dpt. P. Wks., State Office Bldg., Albany.

Nassau Co.—wid'n. Jericho Turnpike between New York City line, Bellerose and Cherry Lanes, New Hyde Park. $2,800,000. Bids in Fall 1960.

▲ **OHIO**—Dpt. Hys., State Depts. Bldg., Columbus, Zone 15.

Lorain Co.—west leg of Rte. 254 extension, Lorain. $8,000,000. Shaffer, Parrett & Assocs., 672 Logan Rd., Mansfield, consult. engrs.

▲ **O., Cleveland**—Bd. Comrs. Cuyahoga Co., County Admin. Bldg., 1219 Ontario St., Zone 13, bond election Nov. 8, roads, $5,000,000. Albert S. Porter, county engr. CD 11/11/58.

AIRPORTS

▲† **Ala., Huntsville**—SATURN STATIC TEST FACILITY—National Aeronautics & Space Admin., Huntsville, Facility, Huntsville, Saturn Static Test Facility $7,000,000 appropriated; Central Laboratory and Office Facility, $4,400,000 appropriated; Extension to Assembly Bldg., $2,500,000 appropriated; addition to Engineering Bldg., $1,137,000 appropriated; completion of Guidance & Control Bldg., $1,948,000 appropriated. CD 2/11.

▲† **Va., Langley Field**—DYNAMICS RESEARCH LABORATORY, etc.—National Aeronautics & Space Admin., Langley Research Center, Hampton, dynamics research laboratory, $4,000,000 appropriated; hypersonic aerothermal dynamics facility, $7,957,000 appropriated, above work in Hampton. CD 7/16/59.

UNCLASSIFIED

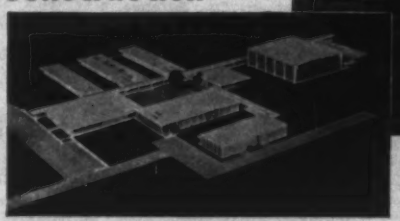
▲† **Calif., Pasadena**—LABORATORY FACILITIES, etc.—National Aeronautics & Space Admin., Jet Propulsion Laboratory, Pasadena, modernization laboratory facilities, $2,335,300 appropriated; solid propellant facility, $1,954,700 appropriated; liquid propellant test cell, $500,000 appropriated. CD 2/11.

▲ **N. C., Morehead City**—PORT IMPRVS., etc.—State Ports Auth., Education Bldg., Raleigh, port imprvs., incl. gantry crane rails, connecting tracks, facilities, $1,500,000; two transit sheds, $720,000; three warehouses, $800,000; gantry cranes, $400,000; dock extension, $2,000,000.

▲† **S. C., Charleston**—DRYDOCK—Pub. Wks. Office, 6th Naval Dist., Naval Base, drydock at U. S. Naval Shipyard, $12,000,000-$15,000,000. Frederic

Another Example of Prescon's Advantages...

Savings and Long, Clear Spans Gained in School Construction



Robstown High School, Robstown, Texas
Architect and Engineers: Donnelly & Whittet, Corpus Christi

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R. Harris, Inc., 27 William St., New York 5, N. Y., and Louis Y. Dawson, 10 Gillon St., Charleston, S. C., engrs. CD 7/22.

PUBLIC BUILDINGS

▲† **Ala., Tuskegee** — HOSPITAL — Veterans Admin., Munitions Bldg., Wash., D. C., hospital alterations Phase IV to Bldgs. 68 and 69, $2,000,000. CD 6/13.

▲† **Calif., Los Angeles**—MODERNIZE HOSPITAL, etc.—Veterans Admin., Munitions Bldg., Wash., D. C., modernize hospital, Phase III, activities bldg., MP chapel, alterations, addns. to Bldg. 165, Wadsworth Hospital. $5,000,000.

▲† **Calif., Palo Alto**—MODERNIZATION HOSPITAL—Veterans Admin., Munitions Bldg., Wash., D. C., modernization of hospital, Phase II, Bldgs. 101, 105, 110, 137 and 205. $4,000,000.

▲† **Calif., San Francisco**—MODERNIZATION HOSPITAL—Veterans Admin., Munitions Bldg., Wash., D. C., modernization hospital, Phase II, clinic bldg., consolidation of clinic into hospital. $6,000,000.

▲ **Fla., Tampa** — SCHOOLS — Hillsborough Co., County Bldg., bond election Nov. 8, schools. $12,000,000.

▲ **Ill., Danville**—HOSPITAL—Veterans Admin., Munitions Bldg., Wash., D. C., Phase III Hospital Bldgs. 20, 21 and 58, alterations, $3,000,000.

▲ **Ill., Normal**—DORMITORIES—Illinois State Teachers College Bd., State Office Bldg., Springfield, plans by Schaeffer Wilson & Evans, 710 Peoples Bank Bldg., Bloomington, two 10 story dormitories, State Normal University, $3,000,000. CD 8/1/58.

▲ **Ind., Indianapolis** — SCHOOLS — Indianapolis P. Schools, 150 N. Meridian St., plans by Edward D. James & Assocs. Inc., 122 E. Michigan St., Northwest HIGH SCHOOL. $5,100,000. CD 10/8, plans by Daggett, Naegele & Daggett, Inc., engr.-archt., 567 West Field Blvd., School No. 98, $788,500; plans by Fleck, Quebe & Reid Assocs., engrs.-archts., 1637 Illinois St., Arsenal Technical High School, $1,500,000.

▲† **Md., Greenbelt**—PAYLOAD TESTING FACILITY, etc.—National Aeronautics & Space Admin., Goddard Space Flight Center, Greenbelt, payload testing facility, $3,555,000 appropriated; satellite sys. laboratory, $4,636,000 appropriated; utility installations, $1,309,000 appropriated, Goddard Space Flight Center. CD 2/11.

▲ **Mont., Great Falls**—PUBLIC BLDG.—Bd. Comrs. Cascade Co., Courthouse, public building. $3,000,000. Constr. Fall 1961.

▲ **N. Y., New Rochelle**—CITY HALL—City, 515 Main St., plans by Fred W. Lyon, 299 North Ave., converting Junior High School into city hall. $2,900,000. CD 1/30/58.

▲† **N. Y., Rome**—RESEARCH, DEVELOPMENT, etc.—Dist. P. Wks. Office, Third Naval Dist., 90 Church St., New York, research, development, and test facilities Stockbridge Test Annex. $2,653,000.

▲ **N. Y., Valley Stream**—HOSPITAL—Owner, c/o James N. Gehrig, (atty.), 250 Fulton Ave., Hempstead, hospital, south side Southern State Parkway. $2,000,000.

▲ **O., Cleveland**—LABORATORY—National Aeronautics & Space Admin., Lewis Research Center, 21000 Brookpark St., energy conversion laboratory, $5,050,000, (appropriated); basic materials research laboratory, $4,050,000, (appropriated). CD 2/11.

▲† **O., Cleveland**—HOSPITAL—Veterans Admin., Munitions Bldg., Wash., D. C., plans by Smith, Hinchman & Grylls, 3107 W. Grand Blvd., Detroit, Mich., and Dalton, Dalton & Assocs., The Arcade, Cleveland, Zone 14, 800 bed hospital, $19,000,000 (appropriated). CD 3/30.

▲† **O., Dayton**—BOILER PLANT—Veterans Admin. Munitions Bldg., Wash., D. C., Phase II, boiler plant conversion of electrical system, connecting corridors, $2,000,000 (appropriated). CD 10/5.

▲ **O., Kent**—RESIDENCE HALLS, etc.—Dpt. P. Wks., State Dpts. Bldg., Columbus, Zone 15, plans by Fulton, Dela Motte, Larson & Nassau, 6014 Euclid Ave., Cleveland, Zone 3, two 6 story men and women residence halls, 100 unit married students housing, Kent State University, $7,000,000. CD 12/18/58.

▲ **O., Parma**—SCHOOLS—Bd. Educ., 5401 W. 54th St., Cleveland 29, bond election Nov. 8, schools, $3,000,000. CD 5/10.

▲ **Pa., Harrisburg**—OFFICE and LABORATORY—General State Authority, 18th and Herr Sts., 5 story, brick, steel office and laboratory for State Dpt. Agriculture, at State Farm Show Bldg., Cameron and Maclay Sts., Proj. 700-6, $2,000,000. CD 9/11.

▲ **Tex., Austin**—ART and MUSEUM—University of Texas, Bd. of Regents, Main Admin. Bld., art and museum, $2,500,000. Jessen, Jessen, Millhouse & Greeven, University consult. archts., and Kuehne, Brooks & Barr, 203 Perry Brooks Bld., exec. archts. CD 7/17/59.

▲ **Tex., San Angelo**—RETIREMENT CENTER—City, City Hall, plans by Donald R. Goss, 103 S. Park St., retirement center, consists 450 apartment units, appurtenancies, Rio Concho Manor, $6,000,000.

COMMERCIAL BUILDINGS

▲ **Ala., Bessemer**—SHOPPING CENTER—Bessemer Mall, Inc., 524 21st St. N., Birmingham, plans by Willard Thorson, 300 2nd Ave. S., Minneapolis, Minn., shopping center. $3,000,000.

▲ **Ala., Birmingham**—SHOPPING CENTER—K & H, Inc., 5603 Lindell Ave. S., Minneapolis, Minn., plans by Willard Thorson, 300 2nd Ave. S., Minneapolis, Minn., shopping center, Greensprings and Oxmoor Rd. $3,500,000.

▲ **Calif., Los Angeles**—OFFICE—David Shussett, Inc., c/o Charles Luckman Assocs., archts., 9220 Sunset Blvd., Zone 46, 35 story, 615,000 sq. ft. aluminum, glass and marble office, incl. 14 level parking area, 333 W. 6 St. $20,000,000.

▲ **Conn., Norwalk**—HOSPITAL—Norwalk Hospital, 24 Stevens St., plans by York & Sawyer, Kiff, Colean, Voss & Souder, 101 Bark Ave., New York, N. Y., hospital addn., Stevens St., $3,500,000. Bids in January 1961. Edward & Hjorth, 67 W. 44 St., New York, N. Y., consult. engrs. Meyer, Strong & Jones, 230 Park Ave., New York, N. Y., mech. engrs. CD 5/22/59.

▲ **Fla., St. Petersburg**—RETIREMENT COLONY—St. Petersburg Retirement Community, Inc., 140 4th St. N, plans by John B. Gay, 329 Bath Club Blvd., Redington Beach, first phase, 228 one story units for residence, $2,700,000.

▲ **Fla., St. Petersburg**—SHOPPING CENTER—Suncoast Shoppers Fair, 4201 50th Ave. S., plans by Bruce Parrish, 939 Beach Dr. N.E., shopping center. $4,000,000.

▲ **Hawaii, Waikiki**—APARTMENTS—Foster Homes Ltd., 4256 Lake Bldg., Honolulu, 25 story Beach Park Apartments. $4,500,000.

▲ **Ill., Joliet**—HOSPITAL—St. Joseph's Hospital, Franciscan Sisters of Sacred Heart, plans by Berners, Stafford & Jahn, 310 Pine St., Green Bay, Wis., hospital addn. $8,240,000. Constr. in 1960. CD 2/24.

▲ **Ill., Rockford**—HOSPITAL—Sisters of The Third Order of St. Francis, 530 N.E. Glen Oak Ave., Peoria, plans by W. Butler Co., 1300 Minnesota Bldg., St. Paul, Minn, 182-bed, St. Anthony Hospital. $4,400,996. CD 5/11/59.

▲ **Mass., Boston**—OFFICE ADDN.—New England Mutual Life Insurance Co., 501 Boylston St., plans by Hoyle, Doran & Berry, 248 Boylston St., office addn. $7,500,000. Constr. 1961.

▲ **Mich., Ann Arbor**—SHOPPING CENTER—Chas. Chershenson & John Charemet, 4800 Greenway Ave., Detroit, 1 story, masonry, steel, concrete shopping center and parking facilities, US 112. Over $2,000,000. Constr. 1960.

▲ **N. J., Trenton**—HOSPITAL—St. Francis Hospital (Order of St. Francis, Glen Riddle, Pa.) Bert Ave., plans by Schmidt Garden & Erikson, 104 S. Michigan St., Chicago, Ill., 106 bed St. Francis Hospital addn., Bert Ave. $4,000,000.

▲ **N. Y., Hampton**—COOPERATIVE APARTMENTS—Malp Assocs., 146 Newbridge Rd., Hicksville, plans by Gordon Wiedenkeller Assocs., 18 W. Carver St., Huntington, 7 connected 2 story, 148 unit Dolphin House cooperative apartments betwgen Atlantic Ocean and Shinnecock Bay. $2,500,000. H. F. Bishop, Main St., West Hampton Beach, structural engrs. Henry Campbell, Jr., 288 Old Country Rd., Mineola, mechanical engr.

▲ **N. Y., Rochester**—APARTMENT—Owner, c/o Michael J. DeAngelis, archt., 42 East Ave., 16 story, rein.-con. luxury apartment, incl. swimming pool, plaza, 1400 East Ave. $3,000,000.

▲ **N. C., Banner Elk**—HOSPITAL—Edgar Tufts Memorial Assn., Banner Elk, Charles A. Cannon Jr. Memorial Hospital. $2,000,000.

▲ **O., Warren**—HOMES—Gibson Realty & Development Co., 200 Chestnut St. N.E., Warren, 250 homes, Howland Twp., east side Howland-Wilson Rd. $5,000,000.

▲ **Pa., Phila.** — SOCIAL SCIENCE CENTER — General State Authority, 18th and Herr Sts., Harrisburg, 4 story Social Science Center for University of Penn., in block bounded by 37th, Locust, 38th and Walnut Sts. $4,000,000. CD 10/14/46, under Commercial Bldgs.

▲ **Tenn., Bristol**—SHOPPING CENTER—Alexander Hassan, Sidney Z. Mensh & C. J. Lowrey, 524 Cumberland Ave., Bristol, Va., plans by Berla & Abel, 2000 P St. N.W., Wash., D. C., 250,000 sq. ft. shopping center, $3,500,000.

▲ **Tex., Dallas**—MOTOR HOTEL—Skyhost, Inc., 519 Mercantile Bldg., plans by Williford & O'Neil, Room 54, 210 Casa Linda Plaza, 12 story, 240 room, air-conditioned, rein.-con. frame, precast concrete motor hotel. $3,000,000.

▲ **Tex., Houston**—SHOPPING CENTER—W. Floyd Clark & Associates, 8721 Lanell Lane, plans by J. Hale Smyth, 3827 Richmond Ave., shopping center, Hy. 75 and Tidewell Rd., $2,500,000.

▲ **Tex., Houston**—STORE—Joske's of Houston, 407 Main St., (Div. of Allied Stores Corp.), 3rd department store, Post Oak-Westheimer Roads area, $3,000,000; 4th department store, southwest area of City, $2,500,000; warehousing or storage, $250,000.

▲ **Tex., Houston** — DEPARTMENT STORE — Northline Shopping Center, Theo W. Berenson, 500 Gulfgate Mall, plans by Sumner Schein & Associates, c/o owners, department store, U.S. Hy. 75 and Crosstimbers area. $3,500,000. Joske's of Texas, lessee.

▲ **Tex., Houston**—OFFICE, etc.—Site Oil Co., 7745 Carndlet St., St. Louis, Mo., plans by Wyatt C. Hedrick, consult. engr.-archt., 5201 Fannin St., 20 story office; auto parking garage; site earthwork, $5,460,000. CD 6/1.

▲ **Tex., San Antonio**—SHOPPING CENTER—S. E. & G. S. McGreless, 1130 Fair St., (McCreless Shopping City) 1st unit, 350,000 sq. ft., masonry Regional Shopping Center, $3,500,000. Phillip Lloyd Shoop, and Noonan, Thomson & Krocker, 2002 N. St. Mary's St., consult. engrs. CD 2/26.

▲ **Tex., Victoria** — COMMERCIAL — American Bank of Commerce, commercial bldgs., $2,250,000.

▲ **Va., Bristol**—SHOPPING CENTER—Alexander Hassan & Signey Z. Mensch, 1613 Eye St. N. W., Wash., D. C., plans by Berla & Abel, 200 P St. N. W., Wash., D. C., shopping center, northern city limits, between US 11 and Interstate 81, $3,500,000.

▲ **Va., Chesterfield**—HOUSING—Stuart Schmidt, Schmidt & Wilson, 4th and Franklin Sts., Richmond, 600 unit housing subdivision, Forest Hill Ave. $6,000,000. CD 11/10/53.

▲ **Va., Chesterfield**—HOUSING—J. A. Smith, c/o Timmons, 316 W. Cary St., Richmond, 200 unit housing development, Westover Dr. $2,000,000.

▲ **Va., McLean**—APARTMENT, etc.—DeLashmutt Bros., Inc., 1130 South George Mason Dr., Arlington, Tower apartment, shopping center, recreation areas, 6 tennis courts and swimming pool, $15,000,000.

▲ **Wis., Brown Deer (Milwaukee P. O.)**—SHOPPING CENTER—Modern Way c/o A. M. Hurwitz, 802 E. State St., plans by Miller & Waltz, 726 N. Milwaukee St., Zone 2, 19 unit, 155,000 sq. ft. shopping center, $3,000,000.

INDUSTRIAL BUILDINGS

▲ **Alaska, Sutton**—CEMENT PLANT—Permanente Cement Co., Kaiser Center, Oakland 12, Calif., 500,000 bbl. per year cement plant. $5,000,000.

▲ **Ga., Brunswick**—PULP PLANT ADDN., etc.—Brunswick Pulp & Paper Co., pulp plant addn. and paper making plant, $35,000,000. CD 12/31/59.

▲ **Ga., Cedar Springs**—PULP and PAPER MILL—Southern Land, Timber and Pulp Corp., Manchester, pulp and paper mill, 1700 acre tract, $42,000,000.

▲ **Md., Benedict**—POWER PLANT—Potomac Electric Power Co., 10 and E Sts. N. W., Wash., D. C., power plant, Chalk Point, near here. $85,000,000. CD 3/13/58.

▲ **Md., Newburg**—POWER PLANT—Potomac Electric Power Co., 10 and E Sts. N. W., Wash., D. C., power plant, Morgantown near here. $85,000,000.

▲ **Mass., South Boston**—PLANT EXPANSION—Gillette Safety Razor Co., Gillette Park, Boston, expansion, 3 bldgs., 227,500 total ft. to incl. mfg., shipping, receiving, office and reception, along Fort Point Channel. $6,000,000.

▲ **Missouri**—POWER PLANT—Union Electric Co., 314 N. 12 Blvd., St. Louis, Zone 1, 1,500,000 KW power plant, Alton Pool, Mississippi River, 2 mi. east of Portage des Sioux, St. Charles Co. $200,000,000.

▲ **N. J., Totowa** — PLANT — Yardley of London, 600 Palisade Ave., Union (City, plans by Edward D. Stone, 7 E. 67 St., New York, N. Y., 236,000 sq. ft. finishing and distribution plant, Union Blvd. and Riverview Dr. $3,000,000. Engineers, Inc., 487 Oregon St., Newark, engrs. CD 5/30.

▲ **N. Y., Schenectady**—LABORATORY—General Electric Co., River Rd., Zone 5, plans by Giffels & Rossetti, Marquette Bldg., Detroit, Mich., laboratory. $3,000,000.

▲ **S. C., Hampton**—PLANT—Westinghouse Elec. Corp., P. O. Box 868, Pittsburgh 30, Pa., Micarta plant expansion. $2,000,000.

▲ **Texas**—COMPRESSOR STATION—El Paso Gas Supply Co. (affiliate of El Paso Natural Gas Co.), El Paso Natural Gas Co. Bld., El Paso, 700 hp. compressor station, George West area, Live Oak Co. $2,250,000.

▲ **Tex., Odessa**—PLANT—El Paso Natural Gas Products Co., (Subsidiary of El Paso Natural Gas Co.), El Paso, Tex. and Rexall Chemical Co., (Div. of Rexall Drug & Chemical Co.), 8480 Beverly, Los Angeles, Calif., olefin plant, $3,000,000. Universal Oil Products Co. & Fish Engineering Corp., M&M Bld., Houston, consult. engrs. CD 5/17.

▲ **Wis., Brookfield**—FACTORY—Seaman Andwall Corp., 13050 W. Blue Mound Rd., plans by American Marietta Co., archt.-consult. engr., 101 E. Ontario St., Chicago 11, Ill., 1 story, 200,000 sq. ft. factory. $2,000,000.

AMERICANS ABROAD

▲† **Korea** — OPERATIONAL, MAINTENANCE FACILITIES, etc.—U. S. Eng., Okinawa Dist., APO 331, San Francisco, Calif., U.S.A., operational, maintenance facilities, supply, community facilities, utilities and troop housing. $4,892,000.

▲† **Okinawa, Fort Buckner**—OPERATIONAL FACILITIES, etc.—U. S. Eng., APO 331, San Francisco, Calif., U.S.A., operational facilities, supply facilities, medical facilities, utilities. $2,946,000.

▲† **Okinawa, Naha** — FAMILY HOUSING, etc. — U. S. Eng., APO 331, San Francisco, Calif., U.S.A., family housing, troop housing, Naval Air Facility. $5,943,000.

▲† **Spain Rota** — OPERATIONAL FACILITIES — U. S. Navy Resident Officer in Charge of Constr., Madrid, operational facilities, family housing, Naval Station. $2,414,000.

FOREIGN

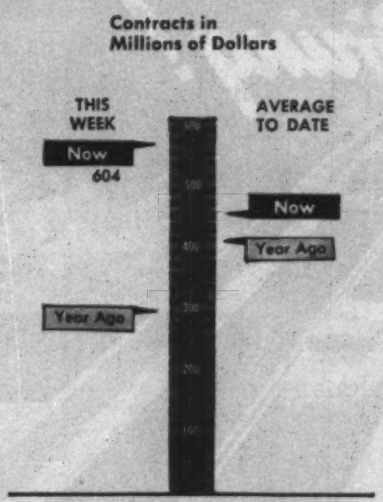
▲ **England, Cheshire**—PRESS SHOP, etc.—Vauxhall Motors, Ltd., 4 Berkeley Sq., W1, London, England, press shop, body plant, paint and trim shop, assembly plant, Hooton Park, Wirral. $84,000,000.

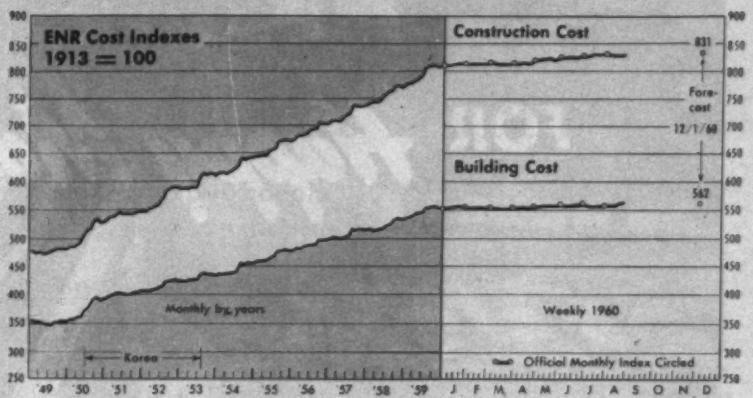
▲ **Italy, Priolo Melilli**—CHEMICAL PLANT—Celene S.P.A., Palermo, Italy, chemical plant. $2,800,000. Export-Import Bank made for to buy U. S. equipment and technical services.

(Proposal Advertisements 70 to 82)

Construction Scoreboard

This Week . . .





ENR INDEXES (1913=100), 20-cities' average	Week of Aug. 25 1960	% Change from July 28 1960	% Change from Aug. 27 1959
Construction Cost	830.03	−0.02	+2.25
Building Cost	562.36	+0.20	+1.19

To convert above indexes to 1926 = 100: Divide Construction Cost by 2.080; Building Cost by 1.850.
1949 = 100: Divide Construction Cost by 4.770; Building Cost by 3.518.

AMOUNT OF CONTRACTS LET

Contracts Awarded In 50 States By Type	This Week millions	Cum. 35 wks 1960	Cum. 35 wks Chge '59-'60 %
All Heavy Construction	$604.0	$15,829.8	+11
By Ownership			
PRIVATE	367.2	8,548.5	+22
PUBLIC	236.8	7,281.3	− 1
State & Municipal	203.4	5,594.4	+ 8
Federal	33.4	1,686.9	−22
By Type of Work			
PUBLIC			
Waterworks	3.7	317.1	+ 7
Sewerage	11.1	402.6	−12
Bridges*	23.9	564.9	+34
Highways	101.1	2,270.6	+ 6
Earthworks, Dams & Waterways	9.4	547.7	−16
Buildings:			
Excl. Housing	56.3	1,661.1	−10
Housing	23.2	475.9	− 2
Unclassified	8.0	1,044.0	+ 3
PRIVATE			
Buildings:			
Mass Housing	93.6	4,261.3	+35
Commercial	90.4	1,687.8	+ 7
Industrial	165.8	1,970.1	+ 4
Unclassified	17.5	626.7	+73

*Includes Private bridges

NOTE: Minimum size projects included are: Waterworks and waterways, $53,000; other public works, $88,000; industrial buildings, $110,000 other buildings, $400,000.

NEW CONSTRUCTION CAPITAL

	Week of Aug. 25 millions	Cum. 34 wks 1960	Cum. 34 wks Chge '59-'60 %
Corporate Securities	$ 70.7	$1,956.4	−21
State and Municipal:			
All Except Housing	62.5	4,495.9	+7
Housing	3.4	185.5	+147
Federal Loans	0.5	116.0	+23
Federal Aid	..	2,717.8	−5
Total Nonfederal	$137.1	$9,471.8	−2
Federal Appropriations:			
Projects in U.S.	..	$1,317.1	+281
Outside U.S.	..	157.8	+3,486
Total New Capital	$137.1	$10,946.7	+9

Latest Month . . .

STATE AND MUNICIPAL BOND SALES

	1960 Aug. (millions)	1960 8-Mos. (millions)	Percent Change from 1959 Aug.	Percent Change from 1959 8-Mos.*
All Construction	$417.3	$4,679.9	− 14.3	+10.2
Buildings	116.3	2,264.1	− 18.4	+39.4
Schools	77.3	1,517.5	− 39.2	+41.2
Housing	3.4	184.0	.....	+151.9
Other buildings	35.6	562.6	+132.1	+18.1
Heavy Construction	301.1	2,415.8	− 12.7	− 7.9
Waterworks	21.7	272.8	+ 13.0	−29.2
Sewerage	10.5	259.1	− 76.5	−15.4
Bridges	4.1	162.7	− 93.8	+92.8
Highway	12.4	285.1	− 89.7	−29.5
Earthwork, dams, waterways	30.2	410.0	+6,660.8	−41.9
Electric and gas utilities	4.2	179.4	− 19.2	+110.4
Airports	1.3	76.2	− 83.7	−56.2
Parking	0.1	20.2	− 56.7	+ 3.3
Unclassified	216.0	750.5	+172.7	+77.4

* Based on average week: 34 weeks in first eight months of 1960 and 35 weeks in first eight months of 1959.

CONSTRUCTION MACHINERY PRICE INDEXES

Manufacturers Prices, 1947–49 = 100—BLS	July 1960	Percent Change from last Month	Percent Change from last Year
All Types	175.5	+0.1	+2.0
Cranes, Draglines, Shovels	173.4	0	+2.7
Shovel, ¾ cu yd	175.4	0	+1.7
Shovel, 1–1½ cu yd	188.2	0	+3.5
Shovel, 2–2½ cu yd	170.3	0	+5.1
Crane, truck mounted	168.2	0	+1.5
Scrapers and Graders	166.6	+0.1	+0.5
Scraper, 4 Wheel, 12–15 cu yd	156.8	0	0
Grader, heavy duty	174.0	+0.2	+0.8
Tractors (non-farm; incl. industrial)	192.0	+0.2	+2.2
Wheel-type, off-highway (January 1955 = 100)	129.2	0	+0.8
Crawler type, 100–154 dhp	197.3	+1.0	+2.1
Machinery, Tractor Mounted	169.5	0	+0.5
Dozer, hydraulic control	186.6	0	0
Loader, shovel type	163.2	0	+1.0
Specialized Machinery	158.7	+0.6	+2.0
Ditcher	153.8	+2.4	−1.8
Roller, tandem	226.4	0	+7.9
Roller, 3 wheels	178.7	0	+2.2
Portable Air Compressors	167.5	0	0
Contractors Air Tools	181.6	0	0
Mixers, Pavers, Spreaders	161.8	0	+3.7
Mixer, truck, 6 cu yd	135.1	0	+2.0
Mixer, paving, 34 cu ft	196.7	0	+1.6
Bituminous paver	165.6	0	+1.8

ASPHALT

FROM ESSO STANDARD

PROVIDES THREE WAY BENEFITS: Taxpayers, contractors, and motorists – all benefit in three important ways by paving their local roads with Asphalt.

LOWER COSTS FOR THE TAXPAYER. Asphalt can save 10% to 50% in initial construction costs.

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ESSO

ASPHALT PRODUCTS

In Industry after Industry..."ESSO RESEARCH works wonders with oil"

Plumbers Test Skills at Purdue

- **Union's annual meeting at Indiana campus honors top apprentices and improves teaching methods.**
- **Labor Secretary Mitchell and industry spokesmen hail benefits of the plumber's training program.**

Labor Secretary James P. Mitchell and labor and management in the construction industry paid tribute last week to the multi-million dollar educational program developed for apprentices and journeymen in the plumbers union.

Occasion was the 1960 International Apprentice Contest and Instructors' Training Course held by the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry in cooperation with a number of leading contractor associations.

Giving some indication of the size of the UA training program, the trustees of the International Training Fund, which is only one source of the program's financing, reported from Purdue that in the last two years ITF has contributed $2,149,998 to more than 249 local Joint Apprenticeship Committees. But, they said, ITF's work is just beginning. According to a UA official, there are now 28,000 UA apprentices enrolled in 760 local unions with a total membership of 252,000.

This year's meeting on the Purdue campus in Lafayette, Ind., marked the UA's seventh annual apprenticeship contest, and was the biggest so far. There were 97 contestants, representing the top fifth-year apprentices in local training programs in the United States and Canada. In addition, 353 instructors enrolled for a week's course in training methods and techniques.

To Secretary Mitchell, the meeting was an example of self-survival in action. "Change is the servant of those who prepare for it and the master of those who do not," he said.

"I can't think of a single American industry in which labor and management would not benefit by sitting down outside of the bargaining table," he added, "to consider their skill and manpower needs over the next decade, assess their present position and decide what should be done to provide them with the skills they need." They could "well look to this meeting," he noted, to see how it can be done and what the benefits are.

High among the incidental benefits, ITF trustees said, is the promotion of "constructive employer-union relations" in which ITF has been a "pioneer."

Through their work on the International Training Fund, the trustees explained, the UA and participating employers have developed a "high degree of mutual respect and cooperation" that affords "a sound foundation upon which they can build smooth working relationships."

The four-year old ITF was the first national trust of its kind in the collective bargaining history of the nation. It was created in 1956 under an agreement between the UA and the National Constructors Association, which is a group of large industrial contractors who operate on a national and international scale and who design and build most of the big mills, power plants and refineries in the United States.

The money that goes into the ITF till for apprentice and journeymen training is collected under the NCA-UA national labor agreement that requires NCA members to contribute 2¼ cents an hour for each hour of work performed by UA journeymen and apprentices in their employ. Credits are allowed for similar payments that may be required under local contracts to local training funds, and an escalator clause in the national agreement is designed to keep the ITF fund above $1,000,000.

ITF funds are channeled to local Joint Apprenticeship Committees, run jointly by labor and management, on the basis of proven need, such as the purchase of training equipment and supplies and payment of instructor salaries. No funds go to UA or its locals, as such, and the awards merely supplemented local JAC finances.

"In the long run, all contractors, national and local alike, will realize a huge return from the ITF assistance," the trustees said. "It is to the contractor's best interest to have a well-run training program which will insure him a steady supply of skilled workers."

Management men representing NCA on the ten-man board of trustees are from C. F. Braun & Co., Bechtel Corp., Rust Engineering Co., Procon, Inc. and M. W. Kellogg Co. ITF's administrator is James P. Schoemann.

The UA and its local unions spend far greater sums for the UA educational programs each year than the ITF does.

Although there is no set pattern for employer contributions at the local level, there are already many local funds financed by employer contributions under local labor contracts for local training purposes. The trend is in that direction on the theory that all contractors employing UA members should contribute because they all benefit.

Contractor groups participating in the UA program at national and local levels include the National Association of Plumbing Contractors, Mechanical Contractors Association of America, National Automatic Sprinkler and Fire Control Association, Refrigeration Air Conditioning Contractors Association and the Lead Industries Association.

Net result, which the Purdue meeting symbolized, is a rather massive, expensive, cooperative effort to meet the present and future manpower needs of the plumbing and pipefitting industry—needs which must be filled to keep the members of the industry in business.

"With the advent of automation and nuclear power, skilled workers will be at a premium in the years ahead," the ITF trustees said. "An ordinary mechanic will not be able to install or to service the complex network of pipe, valves, electronic gadgets, on giant reactors that will supply power for the nation's industrial production. Even today, apprentices and journeymen must master such difficult subjects as higher mathematics, thermodynamics, and certain types of basic engineering problems. Apprentices must learn the theory of their trade as well as acquire mechanical proficiency."

Those who best demonstrated the kind of product the UA program is turning out were the first-place winners in the Purdue contest: Walter A. Bohnenberger, plumber, Local 2, New York, N. Y.; Charles M. Dunn, pipefitter, Local 430, Philadelphia, Pa.; and Bruno Polack, Jr., sprinkler fitter, Local 261, Chicago, Ill.

At the close of the meeting at Purdue, Secretary Mitchell presented a special certificate of merit for the "outstanding" educational program of the UA to Peter T. Schoemann, general president of the plumbers union.

Steel reinforced ...to stand up

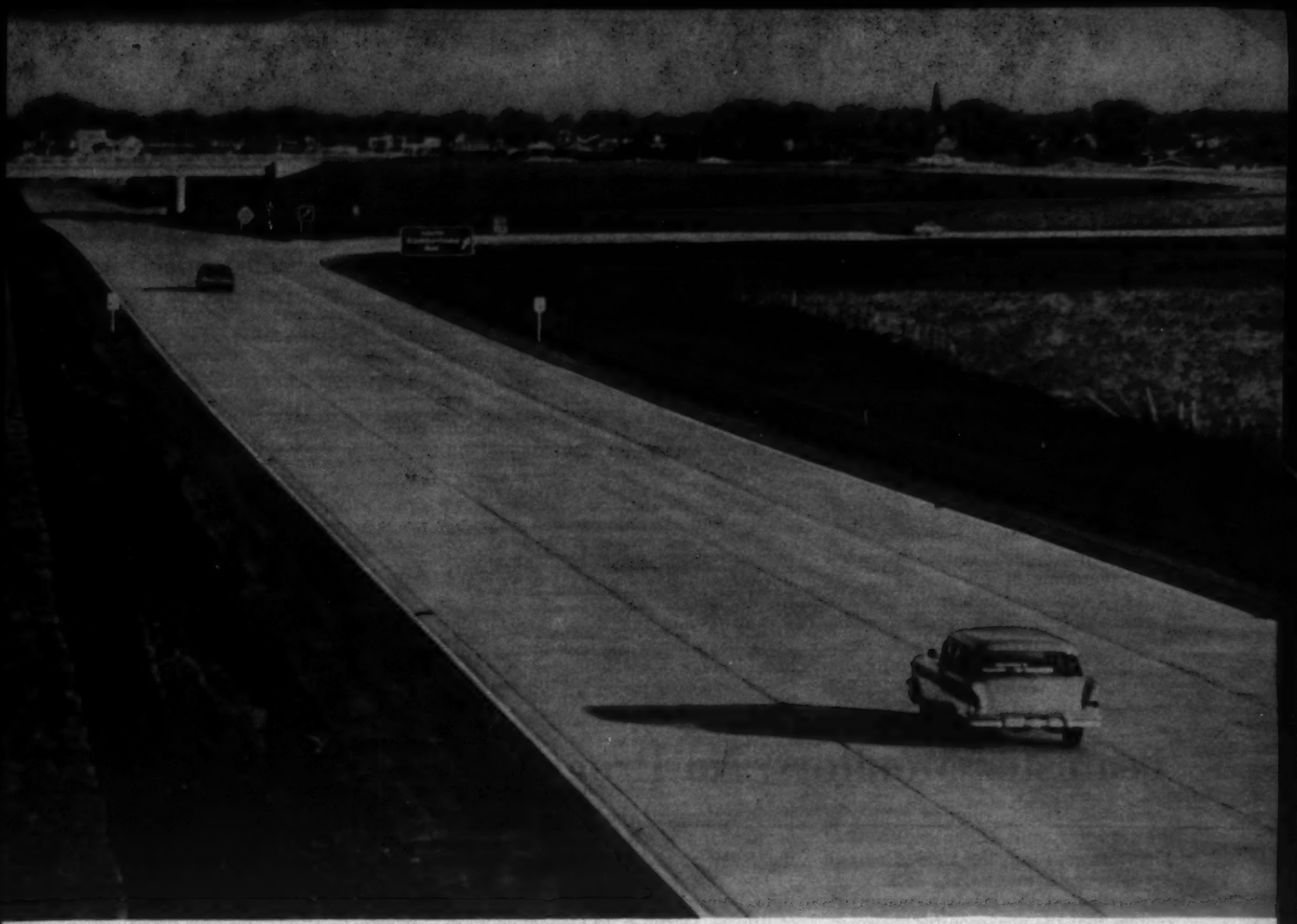
PROJECT: Portion of Northwest Expressway just west of Cumberland Avenue Interchange, Cook County, Illinois

OWNER: Cook County Department of Highways

CONTRACTORS: Arcole Midwest Corp., Evanston, Illinois

WIRE FABRIC DISTRIBUTOR: E. W. Zimmerman, Inc., Chicago, Illinois

This mark tells you a product is made of modern, dependable Steel.



under the hi-speed pounding of modern traffic

Cook County, Illinois has opened the first section of its new Northwest Expressway. And, like other expressways built under the authority and supervision of that county's Department of Highways, it is steel reinforced.

An anticipated daily count of 31,000 vehicles is expected on this newly opened 4½-mile section which extends from Foster & Central Avenues to the Illinois Toll Highway. This figure indicates what this already busy strip will be subjected to as the traffic load gets heavier. And it points up the importance of building into all new roads and highways the strength it will take to stand up under the almost ceaseless pounding of modern hi-speed traffic in the years ahead.

Highways reinforced with steel have a balanced design in that all edges and corners are fully protected. USS American Welded Wire Fabric accomplishes distributed load transfer and reduces stresses about 30% which accounts for the truly superior performance of reinforced concrete over non-reinforced concrete. Reinforced pavements provide a safe, smooth riding surface that lasts.

USS American Welded Wire Fabric is today stronger than ever. Minimum tensile strength is now 75,000 psi and minimum yield point is now 60,000 psi. It has reserve strength for heavier pounding and it is available in a completely machine fabricated form, ready for immediate placement. For more information, write to American Steel & Wire, 614 Superior Avenue, N. W., Cleveland 13, Ohio. *USS and American are registered trademarks*

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Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, Distributors Abroad

Unions Urge Customer Boycotts

An "educational" campaign against nonunion contractors has opened in metropolitan Washington, D. C., where the AFL-CIO construction unions have already passed out handbills to customers shopping at the supermarkets of Safeway Stores, Inc.

The handbills urge customers not to patronize Safeway and complain that Safeway uses stores built by nonunion labor. They assert: "Safeway undermines the living standards of construction workers by having stores erected by persons employing workers at rates and under conditions below those prevailing in this area."

Admits a union spokesman: "This is a new problem that I never remember we've ever confronted before."

Other chains which move into nonunion built centers will be "handbilled" in the future," says the union spokesman. The union stresses this is an "educational campaign," not picketing, and points out that the stores are fully operative with retail clerks, teamsters and other union members on their jobs. The union obviously has one eye on secondary boycott bans.

Union officials are careful to label the campaign as "educational" since it is lawful under the Landrum-Griffin law for a union to publicize its point as long as the process stops short of picketing.

Lawyers say the question of where publicity stops and picketing begins is unclear and has not been determined by the courts. "There's of course a reasonable question about how far the publicity provisio (in Landrum-Griffin) goes," notes one attorney.

Safeway operates about 200 stores in the metropolitan area.

Teamster Monitors: No Progress

James R. Hoffa's running fight with the teamster court-appointed Board of Monitors goes into the U. S. Court of Appeals again next week. The court agreed to hear the teamster president's charges that the new monitor chairman, former FBI agent Terrance McShane is "biased" against him.

Mr. McShane was appointed to head the three-man board by Federal Judge F. Dickinson Letts. But last week, the day before Mr. McShane was to be sworn in, Mr. Hoffa won a delay from the Appeals Court.

Teamster leaders opposed the McShane appointment to the neutral position on the grounds that he once served on the monitor board for the opposition and was one of the FBI agents who testified against Mr. Hoffa during a trial on wiretapping charges that ended in the teamster president's acquittal.

The monitor board has not functioned since the resignation of its past chairman, Martin F. O'Donoghue more than a month ago. The teamster officials have backed Plato E. Papps, general counsel of the machinists union for the chairmanship, but Judge Letts instead appointed Mr. McShane.

The battle over the monitor chairmanship centers around charges against Mr. Hoffa of alleged misuse of teamster funds. Hoffa opponents are seeking a monitor chairman who favors a trial on these charges while the Hoffa forces hope to disband the monitors and get an early teamster convention.

Shorter Workweek Endorsed

The impact of labor-saving devices on job opportunities and the debilitating effects of job "pressure" on construction workers have produced a new groundswell in California for a shorter workweek in the construction industry.

At its 40th convention in Long Beach last month, the California State Building and Construction Trades Council urged local unions to work toward that goal.

The council viewed the shorter workweek as one of the countermeasures to manpower reductions caused by labor-saving tools and methods. It did not say how short the workweek should be but did say the reduction should occur without a reduction in pay.

The council also claimed that "there has been a great increase in premature death and disability among our members because of pressure on the job." It said it felt that shortening the hours of labor "will increase a member's chances for a normal life by giving him more time to recover from these job pressures."

The alternative of a shorter workday was rejected by the council. "There are more long-term advantages for labor in a short workweek than in a short workday," it said.

To Get $200 a Week

New settlements give two trades substantial hikes

Straight-time wage and fringe benefit pay of approximately $200 a week will become a reality for two east and west coast building trades. New, three-year, 75-cent wage settlements will push hourly wage and fringe benefit earnings of New York City sheetmetal workers to $5.81, and of the Southern California pipe trades to $5.55, by 1962.

The tentative settlement reached with the New York City sheetmetal workers last week marked the first real break in the city's construction strikes, which have gone on for nearly two months.

The union's 3,500 members were given the option on ratification of determining how the 75-cent increase should be allocated between wages and fringe benefits. They were getting $4.50 in wages and 56 cents in fringe benefits before the strike.

The California settlement between the Southern California Chapter of Associated General Contractors and eight locals of the plumbers union in nine counties occurred under a wage reopener. It extends the present five-year contract for another three years.

The 1,000 members of the unions, who were getting $4.08 an hour in wages and 55 cents in fringe benefits, will have their wages increased 25 cents an hour each year and will get 17 cents more in fringe benefits. The breakdown by July 1, 1962, will be: wages, $4.83; welfare, 20 cents; vacation benefits, 37 cents; pensions, 13 cents; apprenticeship and journeymen training, two cents.

In addition, vacation and holiday payments will be doubled while workers are on overtime, instead of being computed, as now, on a straight-time basis. Subsistence allowance for work beyond 40 miles has been hiked from $6 to $8 a day, but the mileage and pay for travel time beyond the 40-mile zone has been deleted.

Elsewhere, a six-week tie-up of construction activity in central New Jersey ended last week when the carpenters and bricklayers settled for increases in basic wages of 55 cents an hour spread over three years in three installments.

And in Syracuse, N. Y., the steamfitters, who had also been on strike for six weeks, went back to work with a new two-year contract boosting wages 20 cents now; 15 cents next year.

Business Forecasts in Conflict

- **Equipment manufacturers and distributors see different visions in their crystal balls.**
- **The manufacturers expect a decline in sales; the distributors see an increase.**

Construction equipment manufacturers and construction equipment dealers have parted company when it comes to predicting near-term business conditions in their field. The producers just lowered their sights. The distributors raised theirs (ENR Aug. 18, p. 17).

Emphasis was added to the manufacturers' relatively dim view last week when one of the largest—Caterpillar Tractor Co.—laid off 3,000 employees. This move by the Peoria-based company brings its total work force in the headquarters area to approximately 20,000 persons.

Including the lay-off, Caterpillar has cut its work force in the area by 4,900 from 24,900 at the end of 1959. The difference between the 3,000 laid off and the total employment shrinkage stems largely from attrition—workers who died, quit or retired were not replaced.

Forecast of a decline in business comes in the latest check of manufacturers by the McGraw-Hill Economics Department. Companies cooperating in the survey now figure on 4% less order volume in the third quarter of this year than they had expected last May. This would drop the third-quarter average on the index to 280 (see chart). The forecast made in May had placed order-volume in the third quarter at 292 on the index. (The index is based on 1949 as 100.)

Producers also lowered by 6% their forecasts for the fourth quarter of this year and for the first quarter of next year.

Manufacturers now see only a mild seasonal rise in orders next spring. Their forecast for the second quarter of 1961 is barely 1% higher than the forecast for the first quarter.

And for the 12 months ending in June 1961, equipment makers predict that order volume will average 4% less than the actual pace during the year ended June 1960, which was the highest 12-month volume on record according to the New Orders Index.

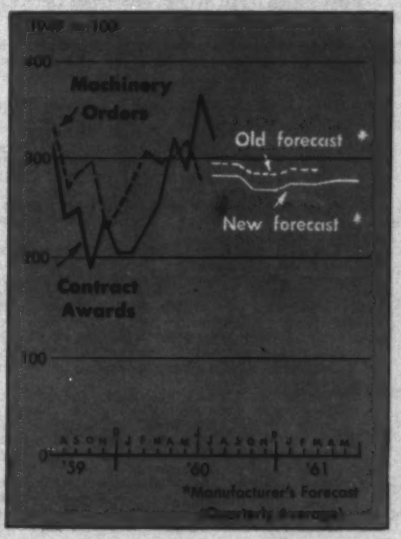
This view of the business future contrasts sharply with that of the construction machinery distributors. According to a survey of dealers made by the Associated Equipment Distributors, sales at the retail level in coming months will rebound strongly—enough to offset a 15% to 20% decline in this year's first half.

Dealers in every state except Virginia, West Virginia, Maryland and North Carolina, expect to see a rise in sales in the last half. In the four exceptions sales are expected to remain steady for the remainder of this year.

But gains ranging from 5% in the Far West and New England to 20% in the Middle West are predicted by dealers in those areas, according to the AED.

Although the sales outlook at the manufacturers' end is weak, H. S. Eberhard, president of Caterpillar, says "we believe we can maintain at least the level of employment reached after the latest adjustment." He attributed the latest reduction in the work force to the failure of sales to go as high as expected. "We were geared for business that did not materialize," he explains.

Mr. Eberhard says sales were disappointing for two main reasons: the general economic situation has not been as good as expected; and a lull in highway contract awards following the setback in federal-aid funds in the latter part of 1959 resulted in lower sales to contractors.



During the last half, Caterpillar's business "is expected to be favorably influenced by an accelerated rate of highway contract awards," a rate that is expected to continue into 1961. . ."

The conflicting opinions of the machinery producers and the distributors may make for a mixed trend in pricing practices. Less than two months ago an ENR survey showed that contractors to a large extent were in the driver's seat when it came to buying equipment (ENR July 21, p. 105).

Book prices were being shaded or larger turn-in allowances were given to buying contractors. Should a major rebound in sales at dealer level materialize, it may put a damper on a buyer's ability to cut his equipment outlay.

On the other hand, should sales by manufacturers slip as they predict, price increases would be unlikely, even though generally higher labor costs are cutting profit margins.

Florida Toll Road Plan Threatend by Injunction

Plans of the Florida Turnpike Authority to construct a 97-mile extension of the Sunshine State Parkway are snagged on a court action filed last week.

A move to block the sale of $50 million to $55 million worth of revenue bonds was made by the Florida Free Highways Association. Judge Hugh Taylor of the Leon County Circuit Court scheduled a hearing for September ninth on the plea for an injunction to bar the marketing of the bonds. An agreement to sell the bonds has already been reached between the Authority and Shearson, Hammill & Co., New York City investment and bond underwriting firm (ENR July 21, p 27).

The Association charges the Authority has assured the underwriters "that no free roads or toll roads which will materially and adversely affect those revenues to be derived from said Orlando extension shall be constructed as long as revenue bonds to be issued to finance the Orlando extension are outstanding." The bonds proposed would mature April 1, 2000.

The Association also contends that the Authority, by law, must receive bids on construction bonds; the Association sell them under a negotiated agreement.

Stalled Again

Texas postpones ban on foreign materials

The battle over "buy American only" is flaring anew in Texas.

Only last month the Texas highway commission decreed that starting this month, all highway construction contracts would stipulate use of materials made only in the U.S. (ENR Aug. 11, p. 99). The order was handed down immediately after the U.S. Bureau of Public Roads told the commission such clauses would be allowed, while indicating "Don't ask us about it."

The August ruling appeared to put an end to a two-year controversy that eventually drew in several states, the BPR, the U.S. Department of Commerce and even the State Department.

Importers, however, succeeded in obtaining a hearing before the commission. Domestic producers said such policies were necessary if U.S. companies are to "survive." Importers also took the "survival" line. A Houston attorney representing the Japanese consular office argued that that nation "must trade to survive . . ."

In face of the controversy caused by the ruling, the commission retreated from its position. It postponed until November the insertion of the contract clause that would have prohibited use of foreign-made materials.

One of the most telling arguments was made by an attorney representing the Japanese consular office. He declared that the new policy may be in violation of the law on competitive bidding, which requires that contracts go to the lowest responsible bidder. Herbert C. Petry, Jr., chairman of the commission conceded "you have a very good point."

But in reply to the same representative's argument that highways would be more expensive if foreign steel is banned, Mr. Petry said no foreign steel has been used in 100% state-financed jobs since 1958, and "we haven't noticed any price differential in those projects. . ."

The legal point brought up by the Japanese representative suggests the possibility that enforcement of the "buy America only" policy may bring a lawsuit.

And although the commission did not indicate it would rescind the order, there is a chance that the problem may be given to the legislature in January. That body may be asked to amend existing legislation pertaining to competitive bidding.

OFFICIAL PROPOSALS

Bids: September 8, 1960

Soil Explorations and Foundation Investigations

NOTICE TO CONTRACTORS

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y. — Pursuant to the provisions of Highway Law, sealed proposals will be received until 10:30 a.m., Advanced Eastern Standard Time, on September 8, 1960, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y. for:

SOIL EXPLORATIONS AND FOUNDATION INVESTIGATIONS AT VARIOUS SITES ON INTERSTATE ROUTE 504, ALBANY TO COUSE, NEW PROJECT NUMBER 1-90-5(7) AND INTERSTATE ROUTE 541, INTERCHANGE WITH FAI 502 AT WASHINGTON AVENUE EXTENSION TO INTERCHANGE ROUTE 540 ON LOWER PATROON ISLAND, NEW PROJECT NUMBER 1-90-5(6)350 IN ALBANY AND RENSSELAER COUNTIES, WHICH CONSTITUTES CONTRACT SPEC. NO. FA-SM-164.

Maps, plans and specifications may be examined and obtained at the following offices:

(a) Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany 1, New York.
(b) Mr. G. L. Nickerson, District Engineer, New York State Department of Public Works, 353 Broadway, Albany 1, New York.
(c) Mr. William Mende, Principal Building Construction Engineer, Department of Public Works, 270 Broadway, New York City.

The deposit for a set of plans, specifications and proposal forms is $5.00. Refunds of deposits for plans, specifications and proposals will be made *only* in case the deposits of individual sets are $10.00 or more, per Chapter 835, Laws of 1960.

The Engineer's Estimate of cost for this work is $65,300.00.

Proposal for this contract must be submitted in separate sealed envelope with the name of the contract plainly endorsed on the outside of the envelope. Proposal must be accompanied by draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum of $3,500.00. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law as set forth in "Instruction to Bidders".

The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPERINTENDENT OF PUBLIC WORKS

Bids: September 14, 1960

Sale of Substation Equipment and Construction Power Transmission Line Materials

POWER AUTHORITY OF THE STATE OF NEW YORK

ADVERTISEMENT FOR PROPOSALS

The Power Authority of the State of New York is offering for sale, to the highest bidder, the following substation equipment and transmission line materials:

One (1) Metalclad 13.8 KV Outdoor Type Switchgear.
Six (6) 15 KV Load Break Switches.
Twelve (12) 15 KV Lightning Arrestors.
Six (6) 115 KV Fuse Mountings, single hook stick operated, complete with power fuses.
Four (4) 115 KV Disconnect Switches.
One (1) Lot of Transmission Line Material.

These items were placed in service June 1955, in a transmission line and substation used to supply construction power to the St. Lawrence Power Project, and removed from service December 1958. They have now been disassembled and moved to areas at the Robert Moses Power Dam, which is located approximately 10 miles north of Massena, N. Y., where they may be inspected.

The power circuit breakers, the storage battery and the rectified type battery charges for the switchgear, presently stored inside plant buildings, will be moved by the Power Authority to the ground floor level for loading by the buyer.

Brief descriptions of the items which are offered for sale, and proposal forms for use in bidding are available from Uhl, Hall & Rich, Post Office Box 68, Massena, New York. The descriptions are derived from the original purchase specifications and no guarantee as to the "as is" condition is implied or will be given. Bidders should inspect the equipment and material at the site before submitting proposals. All items will be sold on a "Where is, as is" basis and no claims for adjustment of sale price will be considered on account of any of the equipment being damaged, deteriorated or altered.

Bids will be considered for all or any of the items or for such combination of items as the bidder may elect to make. The right is reserved to make award on any bid or combination of bids and to reject any or all bids.

Bids will be received only in writing and must be received prior to 12:00 Noon E.D.S.T., September 14, 1960, in order to be considered. Bids or requests for additional information should be addressed to:

UHL, HALL & RICH, Engineers for
the Power Authority of the State of N. Y.
P. O. Box 68
Massena, New York

Successful bidders will be required to make payment in full within ten (10) days after the acceptance of their offers and to remove from Authority Property within thirty (30) days the item or items purchased.

W. S. CHAPIN
GENERAL MANAGER

Bids: September 26, 1960

Ocean City—Longport Bridge Deck Reconstruction of Girder Spans and Installation of Submarine Cables

ADVERTISEMENT FOR PROPOSALS
CAPE MAY COUNTY
BRIDGE COMMISSION
CAPE MAY COURT HOUSE,
NEW JERSEY
Dated: September 1, 1960

Sealed bids for the deck reconstruction of girder spans and installation of new submarine cables on the Ocean City-Longport Bridge will be received by the Cape May County Bridge Commission in its offices at Cape May Court House, New Jersey, until 2 p.m. Eastern Daylight Saving Time, September 26, 1960, and then at said place, publicly opened and read aloud.

The work consists generally of replacing the existing concrete deck on the five 110-foot girder simple spans (two anchor spans and three north approach spans), installing two new submarine cables which will be furnished by the Commission, removing four existing submarine cables, and work incidental thereto.

The Information for Bidders, Proposal, Contract, Contract Bond, Plans and Specifications may be examined at the office of the Commission, First National Bank Building, Cape May Court House, New Jersey, and at the office of Howard, Needles, Tammen & Bergendoff, Consulting Engineers, 99 Church Street, New York 7, New York.

Contract documents will be furnished for $5.00 for each set, upon application to the Commission or to the Consulting Engineers. The payment will not be refunded and contract documents are not required to be returned.

The Contract will be awarded or the proposals rejected within thirty (30) days from the date of opening proposals. The Commission reserves the right to waive any informalities in and to reject any or all bids.

Cape May County Bridge Commission
Robert J. Campbell, Chairman

U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-5393) will be received at Farmington, New Mexico, until 2 p.m., Mountain Standard Time, October 4, 1960, for furnishing labor and materials for Earthwork and Structures, Relocation Denver and Rio Grande Western Railroad and Earthwork and Structures, Relocation County Roads, Navajo Unit, Colorado-New Mexico, San Juan Division, Colorado River Storage Project. Location near Arboles, Colorado in Archuleta County. Principal items are 1,185,000 cu. yds. excavation; 7,335 lin. ft. corrugated metal pipe; 450,000 pounds structural steel for bridges; and other work. Completion time 500 days. For particulars, address Bureau of Reclamation, P. O. Box 2028, Farmington, New Mexico; P. O. Box 360, Salt Lake City, Utah; or Building 53, Denver Federal Center, Denver 25, Colorado. Floyd E. Dominy, Commissioner.

OFFICIAL PROPOSALS

Bids: September 21, 1960

New York State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS,

OFFICIAL PROPOSALS

ALBANY, N. Y.,—Pursuant to the provisions of the Highway Law, Public Buildings Law, and Canal Law Article 2, Title 9 of the Public Authorities Law, and special provisions for projects financed with Federal Aid Funds, sealed proposals will be received until

OFFICIAL PROPOSALS

ten-thirty o'clock A.M., advanced standard time, which is nine-thirty o'clock A.M., eastern time, on the 21st day of September 1960, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects:

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
DISTRICT No. 1, G. L. Nickerson, District Engineer, 353 Broadway, Albany, New York						
Essex, Greene, Rensselaer, Saratoga & Schenectady	FARDC 60-1	Permanent Radar Detector Traffic Counter Stations on S.H. 801, 8384, 610, 5314 & C.R. 30 Project No. HPS-1(17)-A1	....	Installing 5 Radar Detector Traffic Counter Stations	$450 Plans $5	$8,300
Essex (Rte. 73)	RC 60-148	Euba Mills-Keene Valley, Pt. 1, S.H. 8439	4.74	Cable Guide Railing	$2,300 Plans $5	39,000
Greene (Rte. 23A)	RC 60-157	Tannersville-Haines Falls, S. H. 1630	0.15	Asphalt Conc.=0.13 Mi.; Misc Work=0.20 Mi. 3 Span-Conc. Box Culv.=38'	$6,500 Plans $5	112,000
Rensselaer & Saratoga (Rte. 4)	C 60-20 RC 60-166	Troy-Waterford Br. Vill. of Waterford: Third St. & East Broad St., S.H. 9364; City of Troy: Art. Highway (125th St.)	0.14	Repairs to Substructure & Painting Superstruc.	$12,000 Plans $5	218,000
Saratoga (Int. Tr. Rte. 87)	FISH 60-8	Interstate Rte. 502; Malta to Saratoga Springs Project I-87-3(35); U-437(4)	7.89 (10.39 Acc.)	9" Cem. Conc. Pavt. 2 @ 36' & Var.=12.43 Mi.; Misc. Work=0.11 Mi.; Asphalt Conc. 5.74 Mi.: 8 Hg Sep. 7 Prestressed Conc. 368.2'; 142.0'; 142.0'; 142.2'; 139.2'; 382.0'; 330.2'; 1 Comp. Beam 328.8'; 3 Bridges, Prestressed 139.5' and 2 @ 142.0'.	$535,000 Plans $10	9,782,000
DISTRICT No. 2, Lacy Ketchum, District Engineer, 109 No. Genesee Street, Utica 1, New York						
Fulton (Rte. 10)	R.C. 60-151	Stone Arabia-Ephratah, Pt. 2, S.H. 1597; Ephratah-Keeks Ctr., Pt. 2, S.H. 620; Ephratah-Caroga, S.H. 1686	4.71	Asphalt Conc., Type 2A	$8,000 Plans $5	134,000
Fulton (Rte. 10)	R.C. 60-150	Caroga Creek-Canada Lake, S.H. 9039 Canada Lake-Arietta-Piseco, Pt. 1, S.H. 1730	3.09	Asphalt Conc. Type 2A	$6,000 Plans $5	112,000
Hamilton (Rte. 28)	R.C. 60-156	Blue Mountain Lake-Indian Lake, Pts. 1 & 2, S.H. 5704, 5704A; Indian Lake-County Line, S.H. 1100	11.31	Asphalt Conc., Type 1A	$47,000 Plans $5	862,000
Herkimer (Rte. 28)	R.C. 60-149	Columbia-Mohawk, S.H. 472	3.84	Asphalt Conc. Type 1A	$9,000 Plans $5	155,000
Herkimer, Montgomery & Oneida	FARDC 60-2	Permanent Radar Detector Traf. Counter Stations on S.H. 8012, 5028, 5346 and in the City of Utica Project HPS-1(17)-A2	....	Installing 4 Radar Detector Traffic Counter Stations	$300 Plans $5	5,800
Montgomery	M 60-8	Erie Canal, Lock 12-E, Tribes Hill	....	Cleaning and Painting Movable Dam 8	$1,500 Plans $5	29,000
Oneida (Rte. 69)	C 60-19	City of Rome: E. Whitesboro St. Arterial-Fac 58-7	0.46	Chain Link Fencing 6' High	$800 Plans $5	11,000
Oneida (Rte. 233)	R.C. 60-158	Franklin Springs-Kirkland, S.H. 5442; Kirkland Rome, S.H. 8246	0.86	Asphalt Conc., Type 2A=0.79 Mi. Misc. Work=0.07 Mi.	$12,000 Plans $5	213,000
Oneida (Rtes. 365, 26)	R.C. 60-144	Rome Roads, S.H. 564 C.A. Canal Bridge No. E-55	....	Cleaning & Painting Thru Truss 180' Span	$400 Plans $5	7,000
DISTRICT No. 3, Earl E. Towlson, District Engineer, 333 E. Washington Street, Syracuse, New York						
Onondaga, Oswego & Wayne	FARDC 60-3	Permanent Radar Detector Traffic Counter Stations on S.H. 5016, 429, 1516 and in the City of Oswego Project HPS-1(17)-A3	....	Installing 4 Radar Detector Traffic Counter Stations	$400 Plans $5	7,500
DISTRICT No. 4, B. F. Perry, District Engineer, Barge Canal Terminal, Rochester 1, New York						
Monroe (Rtes. 250, 261)	R.C. 60-153	W. Greece-Monitou Beach, S.H. 1281; Hilton Vill., S.H. 851	....	Rehabilitation of 3 Plate Girder Bridges	$3,000 Plans $5	53,000
Monroe, Orleans (Rte. 272)	R.C. 60-161	County Line, S.H. 398 Monroe-Orleans County Line, S.H. 588	5.08	Asphalt Conc.=5.05 Mi. Misc. Work=0.03 Mi.	$16,000 Plans $5	282,000
Ontario (Rte. 21)	R.C. 60-160	Cheshire-McJannetta Hill, S.H. 639; Bristol Springs-Cheshire, Pt. 1, S.H. 8156	6.07	Asphalt Conc.=6.02 Mi. Misc. Work=0.05 Mi.	$50,000 Plans $5	943,000
Ontario (Rte. 88)	R.C. 60-147	Canandaigua-Orleans, S.H. 1278	0.25 (0.08 Acc.)	Asphalt Conc. Type 1A=0.24 Mi.; Double Surf. Treatment=0.08 Mi.; Misc. Work=0.01 Mi.; 1 Bridge-Comp. I-Beam-60' Span	$8,000 Plans $5	148,000
DISTRICT No. 5, E. G. H. Youngmann, District Engineer, State Office Bldg., 65 Court Street, Buffalo 2, New York						
Erie (Rte. 5)	FAC 60-12	City of Buffalo: Fuhrmann Blvd. Art. Highway (Tift Street to Buffalo Skyway) (Contract 1) Project U-750(21)	1.69 (1.14 Acc.)	Grading and Drainage=1.49 Mi.; Asph Conc.; Type 2A (Acc.)=1.14 Mi.; Misc. Work=0.20 Mi.	$70,000 Plans $5	1,270,000
Erie (Rte. 188)	FARC 60-154 FASS 60-13 FASSRC 60-14	Gardenville-Williamsville, Pt. 2, S.H. 1626; Walden Ave., C.R. 244; Walden Ave.-Ellicott Road, C.R. 318, FASS 53-13. Project U-1080(5); S-380(3)	3.22	Asph. Concrete=2.57 Mi.; 9" Cem. Conc.—24' Widening=0.40 Mi.; Miscellaneous Work=0.25 Mi.	$43,000 Plans $5	835,000
Niagara	FASH 60-11 FARC 60-159	Hyde Park Boulevard, S.H. 58-21; Hyde Park Boulevard Extension. Project U-461(12)	0.31	Asphalt Conc. Type 2A=0.27 Mi. Misc. Work=0.04 Mi.	$9,000 Plus $5	157,000
DISTRICT No. 6, William J. Dennis, District Engineer, State Office Bldg., 30 West Main Street, Hornell, New York						
Allegany	FASS 60-12	Scio-Vandermark Creek Road, C.R. No. 10 Project No. S-789(5)	0.34	Asphalt Concrete Comp. I-Beam Bridges, 2 Spans; Total 164.0'	$11,000 Plans $5	199,000
DISTRICT No. 7, Robert W. Sweet, District Engineer, 444 Van Dusee Street, Watertown, New York						
Clinton (Int. Tr. Rte. 87)	FISH 60-10	Int. Rte. 502, Section 7D-1 (Miner Farm Road to Ridge Road) Project I-87-4(8)	5.42 (0.39 Acc.)	Asphalt Conc. Type 1A=5.79 Mi.; Misc. Work=0.02 Mi.; 1 Hgs Prestressed Conc Beam, 7 Spans—Total 370.0'; 2 Reinf Conc. Twin Box Culv. Each 2 @ 12'	$170,000 Plans $5	2,895,000
DISTRICT No. 8, Kurt G. Rauer, District Engineer, Pleasant Valley Road, Poughkeepsie, New York						
Columbia, Dutchess, Orange, Ulster & Westchester	FARDC 60-4	Permanent Radar Detector Traf. Counter Stations on S.H. 762, 135, 537, 453, 8256, 8408, 53-15, 308, 231, 5372, 1456, City of Poughkeepsie and on the Hutchinson River Parkway. Project HPS-1(17)-A8	....	Installing 13 Radar Detector Traffic Counter Stations	$1,000 Plans $5	18,000
Orange (Rte. 17)	R.C. 60-155	Tuxedo-Harriman, Pt. 1, S.H. 8258	2.25	Asphalt Concrete	$29,000 Plans $5	524,000
Orange (Rte. 94)	R.C. 60-152	Slate Hill-Unionville, S.H. 160	0.28	Asphalt Concrete Comp. I-Beam-2 Spans @ 66' Each	$12,000 Plans $5	202,000
Rockland (Rte. 303)	FARC 60-11	New Jersey State Line-Congers, Pt. 1, S.H. 1898; New Jersey St. Line-Congers, Pt. 2, S.H. 8448 Project U-528(8)	1.19 (0.50 Acc.)	9" Cem. Conc. Pavt. 2 @ 24' & Var.=1.48 Mi.; Asphalt Conc.=0.16 Mi.; Misc. Work=0.05 Mi.	$43,000 Plans $5	781,000
DISTRICT No. 9, Joseph C. Frederick, District Engineer, 71 Frederick Street, Binghamton, New York						
Sullivan	FARDC 60-5	Permanent Radar Traffic Counter Station on County Road 53. Project HPS-1(17)-A9	....	Installing a Radar Detector Traffic Counter Station	$70 Plans $5	1,350

(Continued on following page)

(Continued from preceding page)

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
DISTRICT No. 10, AUSTIN M. SARR, District Engineer, 325 W. Main Street, Babylon, L. I., New York						
New York & Bronx (Int. Tr. Rte. 95)	FICBE 60-3	Interst. Route Conn. 511; Cross Bronx Expressway Contract 1B, (Alexander Hamilton Bridge Superstructure) Project I-95-1(40)	0.29	Alexander Hamilton Bridge Superstructure	$310,000 Plans $5	5,639,000
Nassau & Queens	FARC 60-164	Jericho Turnpike Pt. 1, Jamaica Ave., S.H. 1831; Jericho Turnpike, Pt. 2, (Jamaica Ave.), S.H. 1940; Jericho Turnpike, S.H. 9020; Jericho Turnpike-Floral Park Vill. S.H. 60-20. Project U-1000(7)	2.35	Asphalt Concrete = 1.99 Mi. Misc. Work = 0.36 Mi.	$150,000 Plans $5	2,771,000
Queens (Int. Tr. Rtes 78 & 495)	FICE 60-2 FIHHE 60-6	Int. Rte. Conn. 513, Clearview Expressway (73rd. Ave. to Willets Point Blvd.); Int Rte. Conn. 514, Horace Hardin Expressway, Sec. 2 (190th St. to Oceania St.) Project I-78-1(52); I-495-1(43)	4.72	Roadside Development	$30,000 Plans $5	353,000

Any projects in this letting that are on the Federal Aid highway systems are subject to the provisions of the "Federal-Aid Highway Act of 1956", being Public Law 627, 84th Congress, approved June 29, 1956, and are also subject to the applicable New York State statutes.

In compliance with the provisions of Section 115 (Prevailing Rate of Wage), Public Law 627, the minimum wages to be paid laborers and mechanics are included in wage schedules that are set out in the bid proposal.

Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts, Albany, N. Y., and at the office of the District Engineers noted above, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

If the deposit is $10.00 or more, full refund for one copy of the plans and specifications will be made to a bidder for the particular project, if such plans and specifications are returned in good condition within 30 days after the award of the contract or after the rejection of the proposal. The successful bidder is not required to return the copy of the plans and specifications in order to be entitled to such refund. If the deposit is $10.00 or more, partial refund will be made for the return of all other copies of plans and specifications in good condition within 30 days after the award of the contract or the rejection of the proposal. Special attention of bidders is called to "Information for Bidders" in the Public Works Specifications, and to the special provisions applying to projects financed with federal funds. Award of a contract is subject to priorities and allocations under the Defense Production Act of 1950, as Amended, and all regulations issued thereunder.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bond shall conform to the provisions of the Highway Laws, as set forth in "Information for Bidders".

The right is reserved to reject any or all bids.

J. BURCH McMORRAN

SUPT. OF PUBLIC WORKS

Bids: September 22, 1960.

New Jersey Turnpike Authority

ADVERTISEMENT FOR PROPOSALS
CONTRACT NO. R-63

Proposals are invited for Contract No. R-63 which involves the construction of additions to the existing sewage treatment plant and other incidental work at Service Area 7S of the New Jersey Turnpike, in Cranbury Township, Middlesex County, New Jersey.

Proposals will be received at the New Jersey Turnpike Authority Administration Building, New Brunswick, New Jersey, until 11:00 o'clock, Eastern Daylight Saving Time, on the morning of September 22, 1960, at which time and place said proposals will be publicly opened and read.

Each bidder must submit with his proposal a Contractor's Financial and Equipment Statement.

Contract documents may be examined during office hours on or after August 31, 1960, at the office of the Authority, and will be furnished upon payment of Ten Dollars ($10.00) for each set, not refundable.

NEW JERSEY TURNPIKE AUTHORITY
Joseph Morecraft, Jr., Chairman
August 24, 1960

Bids: September 8, 1960

Soil Explorations and Foundation Investigations

NOTICE TO CONTRACTORS

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Highway Law, sealed proposals will be received until 10:30 a.m. Advanced Eastern Standard Time, on September 8, 1960, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y. for:

SOIL EXPLORATIONS AND FOUNDATION INVESTIGATIONS AT VARIOUS SITES ON VAN WYCK EXPRESSWAY, GRAND CENTRAL PARKWAY INTERCHANGE TO NORTHERN BOULEVARD-WHITESTONE PARKWAY INTERCHANGE IN QUEENS COUNTY, WHICH CONSTITUTES CONTRACT SPEC. NO. SM-172.

Maps, plans and specifications may be examined and obtained at the following offices:

(a) Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany 1, N. Y.

(b) Mr. Austin M. Sarr, District Engineer, New York State Department of Public Works, 325 West Main Street, Babylon, Long Island, New York.

(c) Mr. William Mende, Principal Building Construction Engineer, Department of Public Works, 270 Broadway, New York City.

The deposit for a set of plans, specifications and proposal form is $5.00. Refunds of deposits for plans, specifications and proposals will be made *only* in case the deposits of individual sets are $10.00 or more, per Chapter 835, Laws of 1960.

The Engineer's Estimate of cost for this work is $60,925.00.

Proposal for this contract must be submitted in separate sealed envelope with the name of the contract plainly endorsed on the outside of the envelope. Proposal must be accompanied by draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum of $3,500.00. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instruction to Bidder."

The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPERINTENDENT OF
PUBLIC WORKS

Bids: September 15, 1960

Walt Whitman Bridge Contract No. 103

DELAWARE RIVER PORT AUTHORITY
of the
COMMONWEALTH OF PENNSYLVANIA
and the
STATE OF NEW JERSEY
Administration Building
Camden, New Jersey

Sealed bids will be received for Fencing and Miscellaneous Paving for the Philadelphia Approaches of the Walt Whitman Bridge, known as Contract No. 103, at the office of the Executive Director of the Delaware River Port Authority, Administration Building, Benjamin Franklin Bridge Plaza, Camden, New Jersey, until 2:30 P. M., Eastern Daylight Saving Time, Thursday, September 15, 1960, at which place and time they will be publicly opened and read by the Authority.

A more complete description of the work and full information for bidders are given in the Contract Documents and Specifications for this contract, which may be obtained upon deposit of a $10.00 check, which will be remitted upon receipt of bid or the return in good condition of the copies so taken, within thirty days after the opening of bids.

Each proposal must be accompanied by a certified check in the sum of $15,000, payable to the Delaware River Port Authority and drawn upon a National or State Bank or Trust Company having an office or place of business either in Philadelphia, Pennsylvania or Camden, New Jersey, and must not be enclosed with the sealed bid. The surety's consent must be shown. The bidder to whom the contract is awarded will be required to furnish a Performance and Labor and Materialman's Bond in the sum of 100 percent.

The Authority will afford prospective bidders an opportunity to inspect the site of the work.

The Authority reserves the right to waive any informalities in the bids received, to reject any or all bids and to award the contract only to those experienced in this class of work and to the bidder whose proposal is deemed by the Authority to be most advantageous to the public interest.

DELAWARE RIVER PORT AUTHORITY
JOHN M. McCULLOUGH
EXECUTIVE DIRECTOR

U. S. Government

Department of Commerce, Bureau of Public Roads, August 22, 1960. SEALED BIDS will be received at the office of C. H. Buchanan, Division Engineer, Bureau of Public Roads, First National Bank Building, Florence, Alabama, until 10:00 a.m., C.S.T., SEPTEMBER 22, 1960, for Mississippi Forest Highway Project 34-A1, Sharkey County, Mississippi. Grading, Draining, Gravel Surfacing, and other work on the Kelso-Holly Bluff Road from Spanish Fort, 9.936 miles, to near Kelso. The approximate quantities of the more important items are: 145 acres Clearing and Grubbing, 1,021,000 cu. yd. Excavation and Borrow, and 20,000 cu. yd. Gravel. Minimum wage rates have been fixed as required by law. Plans, specifications and bid forms are available upon request at the address given above, or Bureau of Public Roads, 1440 Columbia Pike, Arlington 4, Virginia. F. W. Cron, Regional Engineer.

U. S. DEPARTMENT OF THE INTERIOR, Office of Saline Water. Sealed Bids (Specification No. 198) will be received at Washington, D. C. until 3:00 p.m. Eastern Daylight Time, the 18th day of October 1960, for the construction of a multi-stage flash sea water conversion demonstration plant to be constructed at Point Loma in San Diego, California. Lump sum bid shall include 1. One (1) million gallon per stream day multi-stage sea water conversion plant with building, steam generator, auxiliaries and accessories all complete in accordance with the specification and erected on the site. The plant shall be complete on 365 calendar days from date of receipt of Notice to Proceed; and 2. A firm bid to cover start-up operation costs during a seventy-five (75) day test period. For particulars, address U. S. Department of the Interior, Office of Saline Water, Washington 25, D. C., Dr. A. L. Miller, Director.

READ THE OFFICIAL
PROPOSAL COLUMN OF
ENGINEERING NEWS-RECORD
THIS WEEK AND EVERY WEEK

OFFICIAL PROPOSALS

Bids: September 15, 1960

Soil Explorations & Foundation Investigations
Contract Spec. No. SM-170

NOTICE TO CONTRACTORS

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Highway Law, sealed proposals will be received until 10:30 a.m., Advanced Eastern Standard Time, on September 15, 1960, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y. for:

SOIL EXPLORATIONS AND FOUNDATIONS AT VARIOUS SITES ON SPRAIN PARKWAY, JACKSON AVENUE TO BRADHURST AVENUE, WESTCHESTER COUNTY, WHICH CONSTITUTES CONTRACT SPEC. NO. SM-170.

Maps, plans and specifications may be examined and obtained at the following offices:

(a) Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany 1, New York.
(b) Mr. Kurt G. Rauer, District Engineer, New York State Department of Public Works, Pleasant Valley Road, Poughkeepsie, New York.
(c) Mr. William Mende, Principal Building Construction Engineer, Department of Public Works, 270 Broadway, New York City.

The deposit for a set of plans, specifications and proposal forms is $5.00. Refunds of deposits for plans, specifications and proposals will be made *only* in case the deposits of individual sets are $10.00 or more, per Chapter 835, Laws of 1960.

The Engineer's Estimate of cost for this work is $12,350.00.

Proposal for this contract must be submitted in separate sealed envelope with the name of the contract plainly endorsed on the outside of the envelope. Proposal must be accompanied by draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum of $1,000.00. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law as set forth in "Instruction to Bidders".

The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPERINTENDENT OF PUBLIC WORKS

Many contractors depend entirely upon the

OFFICIAL PROPOSAL COLUMNS

of

Engineering News-Record

for Opportunities to bid. They might not see your announcements if printed elsewhere.

You undoubtedly want their bids on your contracts. Make sure of them on your next contract.

The cost is only $2.40 a line per issue.

OFFICIAL PROPOSALS

Bids: September 19, 1960.

Board of Education—Bureau of Construction

Notice Re: Prequalification Forms for Contractors
APPROVED AS TO FORM
Acting Corp. Counsel

NOTICE IS HEREBY GIVEN THAT

The Superintendent of Design, Construction and Physical Plant, Bureau of Construction, 4th Floor, Room 407, 42-15 Crescent Street, Long Island City 1, New York will receive applications for prequalification from contractors who may wish to submit bids for the proposed hereinafter specified contracts. For the General Construction, plumbing and drainage, heating and ventilating, electrical work and lighting fixtures of:

Public School 79, Madison Avenue and East 117th Street, Borough of Manhattan, N.Y.C.

Junior High School 27, Clove Lakes Place and Elizabeth Street, Borough of Richmond, N.Y.C.

Public School 236, (Addition and Modernization), Avenue "U", between East 63rd and East 64th Streets, Borough of Brooklyn, N.Y.C.

Public School 181, Essex, Norfolk and Stanton Streets, Borough of Manhattan, N.Y.C.

The prequalification application form must be secured at the Bureau of Construction, Room 407, 42-15 Crescent Street, Long Island City 1, N. Y., and submitted to the Superintendent of Design, Construction, and Physical Plant at the same above address.

Bids, when advertised, will be received only from prequalified bidders.

The time for submitting prequalification applications by contractors will expire on Monday, September 19th, 1960.

JOSEPH R. WEISS
Superintendent of Design, Construction and Physical Plant.

Starting: Monday, August 29th, 1960.
Five (5) days.

Dated: August 15, 1960
JJF:TRM

Bids: September 20, 1960

The Port of New York Authority

Sealed proposals for the following work will be received at the Office of the Chief Engineer, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on date indicated, at which time said proposals will be opened and read in Room 1108.

Contract NYA-490.004—New York International Airport—Extension of Runway 4L-22R—Surcharge Fill—Deposit $30.00 per set of documents—Bids will be received until 2:30 P.M. on Tuesday, September 20, 1960.

Contract TA-290.002—Teterboro Airport—Police Training Facility—Paving and Utilities—Deposit $30.00 per set of documents—Bids will be received until 2:30 P.M. on Tuesday, September 20, 1960.

Contract documents may be seen at the Office of the Assistant Chief Engineer for Design, Room 1115, 111 Eighth Avenue, New York 11, N. Y. Documents will be furnished upon receipt of the above deposit (each set including one copy of the Contract Drawings) for not more than three sets to any one company. Additional sets will be furnished upon payment of an amount for each set equal to the deposit indicated above, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001 where a receipt will be issued. The receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract directly to the Authority will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
S. Sloan Colt, Chairman

New York, September 1, 1960

OFFICIAL PROPOSALS

Bids: September 21, 1960.

Beach Protection
Contract B. P. 60-77

NOTICE TO BIDDERS

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, NEW YORK—Pursuant to the provisions of the Building Law and Highway Law, sealed proposals will be received, until 10:30 A.M., D.S.T., on September 21, 1960 by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Gov. Alfred E. Smith State Office Building, Albany, New York for:

Contract B.P. 60-77 for
Beach Protection (Four Stone Groins) at Far Rockaway, The Rockaways, City of New York, Queens County, New York

Engineer's Estimate for B.P. 60-77 is $370,000. Maps, plans and specifications may be examined and obtained at the following offices:

(a) Bureau of Contracts, 12th Floor, The Gov. Alfred E. Smith State Office Bldg., Albany, New York.
(b) Department of Public Works, 270 Broadway, New York City, New York.
(c) In addition to the above mentioned offices, plans, maps and specifications for Contract B.P. 60-77 may be examined and obtained at the office of Mr. Austin M. Sarr, District Engineer, 225 West Main Street, Babylon, L. I., New York.

The deposit for Plans and Proposal Forms for Contract B.P. 60-77 is $10.00. A refund in full will be made to bidders for return of one set in good condition within 30 days of award or rejection of bids; a partial refund for all other sets in good condition, similar period, will be made.

Proposals for Contract B.P. 60-77 must be submitted in a separate, sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" in the amount of $45,000. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Building Law and Highway Law as set forth in "Instructions to Bidders" in the contract specifications.

The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPERINTENDENT OF PUBLIC WORKS

Bids: September 16, 1960.

Railroad Bridge Piers and Abutments

The Chicago, Rock Island and Pacific Railroad Company, W. B. Throckmorton, Chief Engineer, is taking bids due on September 16, 1960, at 10 A.M. Central Standard Time (11 A.M. CDT) for construction of seven (7) piers and two (2) abutments for a double track railway concrete trestle bridge number 3428 over Boggy Creek near Enid, Oklahoma. The piers and abutments will each consist of six (6) 24-inch diameter reinforced concrete drilled-in caissons approximately 34 feet long and a reinforced concrete cap.

"Plans and specifications may be obtained from the Chief Engineer's office, Room 403, LaSalle Street Station, 139 West Van Buren Street, Chicago 5, Illinois. A deposit of $15.00 will be required for each set of plans and specifications. The deposit should be in the form of a certified check or money order made payable to the Treasurer, C.R. I.&P. R.R. Company. The deposit will be returned within fifteen (15) days after the opening of bids if plans and specifications are returned in good condition.

U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-5395) will be received at Dillon, Montana until 10 a.m., Mountain Standard Time, October 6, 1960, for furnishing labor and materials for Earthwork, Structures and Track Relocation, Union Pacific Railroad, East Bench Unit, Montana, Missouri River Basin Project. Location near Dillon, Montana in Beaverhead County. Principal items are 2,115,000 cu. yds. excavation; 4,160 lin. ft. corrugated metal pipe; 15.8 miles laying track; and other work. Completion time 600 days. For particulars, address Bureau of Reclamation, P. O. Box 2553, Billings, Montana; P. O. Box 870, Dillon, Montana; or Building 53, Denver Federal Center, Denver 25, Colorado. Floyd E. Dominy, Commissioner.

OFFICIAL PROPOSALS

Bids: September 15, 1960

Soil Explorations and Foundation Investigations
Contract Spec. No. SM-171

NOTICE TO CONTRACTORS

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Highway Law, sealed proposals will be received until 10:30 a.m. Advanced Eastern Standard Time on September 15, 1960, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y. for:

SOIL EXPLORATIONS AND FOUNDATION INVESTIGATIONS AT VARIOUS SITES ON ROUTE 17 RECONSTRUCTION, DEPOSIT TO McCLURE IN BROOME COUNTY, WHICH CONSTITUTES CONTRACT SPEC. NO. SM-171.

Maps, plans and specifications may be examined and obtained at the following offices:

(a) Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany 1, N. Y.
(b) Mr. Joseph C. Federick, District Engineer, New York State Department of Public Works, 71 Frederick Street, Binghamton, New York.
(c) Mr. William Mende, Principal Building Construction Engineer, Department of Public Works, 270 Broadway, New York City.

The deposit for a set of plans, specifications and proposal forms is $5.00. Refunds of deposits for plans, specifications and proposals will be made *only* in case the deposits of individual sets are $10.00 or more, per Chapter 835, Laws of 1960.

The Engineer's Estimate of cost for this work is $16,525.00.

Proposal for this contract must be submitted in separate sealed envelope with the name of the contract plainly endorsed on the outside of the envelope. Proposal must be accompanied by draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum of $1,000.00. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instruction to Bidders".

The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPERINTENDENT OF PUBLIC WORKS

Bids: September 15, 1960

Benjamin Franklin Bridge
Contract No. 21-G

DELAWARE RIVER PORT AUTHORITY
of the
COMMONWEALTH OF PENNSYLVANIA
and the
STATE OF NEW JERSEY
Administration Building
Camden, New Jersey

Sealed bids will be received for Paving Repairs to the Benjamin Franklin Bridge, known as Contract No. 21-G, at the office of the Executive Director of the Delaware River Port Authority, Administration Building, Benjamin Franklin Bridge Plaza, Camden, New Jersey, until 2:30 P. M., Eastern Daylight Saving Time, Thursday, September 15, 1960, at which place and time they will be publicly opened and read by the Authority.

A more complete description of the work and full information for bidders are given in the Contract Documents and Specifications for this contract, which may be obtained upon deposit of a $10.00 check, which will be remitted upon receipt of bid or the return in good condition of the copies so taken, within thirty days after the opening of bids.

Each proposal must be accompanied by a certified check in the sum of $5,000, payable to the Delaware River Port Authority and drawn upon a National or State Bank or Trust Company having an office or place of business either in Philadelphia, Pennsylvania or Camden, New Jersey, and must not be enclosed with the sealed bid. The surety's consent must be shown. The bidder to whom the contract is awarded will be required to furnish a Performance and Labor and Materialman's Bond in the sum of 100 percent.

The Authority will afford prospective bidders an opportunity to inspect the site of the work.

The Authority reserves the right to waive any informalities in the bids received, to reject any or all bids and to award the contract only to those experienced in this class of work and to the bidder whose proposal is deemed by the Authority to be most advantageous to the public interest.

DELAWARE RIVER PORT AUTHORITY
JOHN M. McCULLOUGH
EXECUTIVE DIRECTOR

OFFICIAL PROPOSALS

Bids: September 21, 1960

Channel Improvements
Contract CD 60-1

NOTICE TO BIDDERS

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of the Building Law and Highway Law, sealed proposals will be received, until 10:30 A.M., D.S.T., on September 21, 1960 by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Gov. Alfred E. Smith State Office Building, Albany, New York for:

Contract CD 60-1 for
Channel Improvements, Deepening
Chadakoin River (Chautauqua Lake Outlet)
City of Jamestown, Chautauqua County, New York

Engineer's Estimate for CD 60-1 is $25,000.

Maps, plans and specifications may be examined and obtained at the following offices:

(a) Bureau of Contracts, 12th Floor
The Gov. Alfred E. Smith State Office Bldg., Albany, New York.
(b) Department of Public Works, 270 Broadway, New York City, New York.
(c) In addition to the above mentioned offices, plans, maps and specifications for Contract CD 60-1 may be examined and obtained at the office of Mr. E. G. H. Youngmann, District Engineer, 65 Court Street, Buffalo 2, New York.

The deposit for Plans and Proposal Forms for Contract CD 60-1 is $10.00. A refund in full will be made to bidders for return of one set in good condition within 30 days of award or rejection of bids; a partial refund for all othe sets in good condition, similar period, will be made.

Proposals for Contract CD 60-1 must be submitted in a separate, sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" in the amount of $1,300. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Building Law and Highway Law as set forth in "Instructions to Bidders" in the contract specifications. The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPERINTENDENT OF PUBLIC WORKS

OFFICIAL PROPOSALS

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The advertising rate is $30.20 per inch for all advertising appearing on other than a contract basis. Frequency rates quoted on request.

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• POSITIONS VACANT

Field Supervisor. Large established midwest consulting firm has permanent position in building construction supervision for thoroughly qualified and experienced man. Mechanical engineer preferred. Moving expenses paid. Send complete resume to P-4833, Engineering News-Record.

Civil Engineer, Graduate, with experience as project engineer in charge of design of urban and rural highways, streets and other municipal projects for consulting engineering firm. Location Southwest. P-5055, Engineering News-Record.

Soils Engineer—C.E. graduate with education or experience in soils and foundations for work with engineering firm. Prefer young man with E.I.T. or P.E. Registration. Location: Washington, D.C. Resume to P-5154, Engineering News-Record.

• POSITIONS VACANT

Village Engineer—The Village of Monona is accepting applications for the position of Village Engineer, education and experience requirements are: Graduate civil engineer, with general Municipal experience, should be a State of Wisconsin registered or eligible therefore within one year. Salary open. Write for application to: E. J. Lottes, Village Administrator, 5211-Schluter Road, Madison 4, Wisconsin. Population Village of Monona—8200.

Sales Engineer—For sales, engineering and estimating on pre-engineered metal building construction. Must be experienced on this type of work. P-5107, Engineering News-Record.

Chief Estimator for Estimating Department of growing Midwest General Construction-Design firm, specializing in industrial, commercial and public works. Must have proven record of preparing complete estimates, including quantity survey, pricing and research. Must have some experience in buying and expediting, and ability to manage men. Must be willing to travel. Permanent, well compensated, position for man with initiative and ambition, who can meet challenge of job. Send complete resume, including education, past experience references, and photograph, if available to P-5143, Engineering News-Record.

Estimator—Midwestern construction and engineering firm has opening for qualified heavy construction estimator. Engineering degree necessary. Permanent position for right man. Salary commensurate with ability. P-5165, Engineering News-Record.

Surveyors, Sanitary Engineer, Computers, Draftsmen. Located Southeastern Pennsylvania. Experienced Chief of Party for municipal, property and topographic surveying. Computers and draftsmen for property surveys, subdivision design, municipal design and planning. Engineer and draftsman for design of water and sewer systems and treatment facilities. Write P-5167, Engineering News-Record.

(Continued on opposite page)

TRAFFIC ENGINEER

Immediate opening for qualified engineer experienced in traffic analysis for major highways and municipalities. Highway design background desirable.

Salary commensurate with background and experience. Please contact

Personnel Director,

BUCHART ENGINEERING
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One of the world's largest pharmaceutical companies has available varied and challenging assignments in Plant Engineering. About five years' experience required in the process industries. Applicants should be capable of assuming full responsibility for project design and coordination. Knowledge of construction methods and chemical maintenance desirable. If qualified, please send resume to:

Personnel Department
PARKE-DAVIS **Detroit 32, Mich.**

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Permanent Location. Excellent opportunity for right man. Liberal benefits. Must have broad experience in construction purchasing.

Apply by letter only, giving education, complete background, references, age, etc.

Tidewater Construction Corp.
P. O. Box 57
Norfolk, Virginia

SALES REPRESENTATIVE

Large established grey-iron producer in the water works field desires additional sales personnel. Must be willing to travel. Engineering and/or college background desirable. Good opportunities for advancement. All replies confidential. Send complete resume and photograph to:

SW-4916, Engineering-News-Record
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

ENGINEERS

Permanent openings for qualified

CIVIL

Several openings for experienced persons in design of structural steel and reinforced concrete applicable to design of Bridges and Buildings. Opening for Sanitary major in design of sewage and waste disposal systems.

ELECTRICAL

Need several in the design and layout of Power Plants, Test Facilities, Industrial and Institutional projects.

MECHANICAL

Several openings for men experienced on Process Piping design and layout, preparation of Flow Diagrams, and cost estimates.

Also openings for Designer-Detailers and Draftsmen.

Positions open to Engineers desiring long range employment with opportunity for professional development. Many company benefits, including paid vacations, sick leave, holidays. Excellent employee benefit plan.

Write fully, include complete experience and salary data.

SVERDRUP & PARCEL ENGINEERING COMPANY
Engineers — Architects
915 Olive St., St. Louis 1, Mo.

WANTED

BUSINESS PARTNER as EXECUTIVE Vice-President and General Manager

Consulting Engineering and General Contracting Group

World Wide Contacts
Foreign and Domestic Projects

Sales experience Essential

Minimum investment $50,000.00

Annual income should equal investment
Send complete resume first letter

P-4350—Engineering News-Record
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

• *POSITIONS VACANT*

(Continued from opposite page)

Construction Manager-Coordinator. Growing firm desires person with experience in all phases of commercial-industrial building. Engineering degree desirable. Remuneration commensurate with ability. Reply: J. Price Associates, Inc., 243 West Haven Ave., Salt Lake City, Utah.

Overseas Position: Engineer groundwater hydrology; experienced large-scale surveys, evaluation groundwater quantity and quality, supervision of drilling operations for community supplies, analysis of data. Must be able work at both ministerial level on matters of groundwater policy, including organization and administration, and field level on operations. Salary open, allowances provided. Write Box ENR-2, Office of Public Health, International Cooperation Administration, Washington 25, D.C.

Assistant To City Engineer. Salary to $6,588. Fringe benefits. Opportunity for varied design and construction experience. Large city planning, street, sewer and expressway programs under way. Write City Manager, Zanesville, Ohio before November 1.

• *POSITIONS WANTED*

Chief Estimator-Project Manager — Fully qualified to handle work from bidding stage to completion. Best of references. Building Construction, Heavy Construction, Sewage and Water Treatment Plants PW-5011, Engineering News-Record.

Const. Manager-Superintendent: Registered Civil Eng. Connecticut Member ASCE. 30 years experience on general and heavy const. last 15 years at high level management and supervision covering design, contracting and completion of industrial and institutional buildings, housing projects, oil field facilities, pipe lines, pumping stations, refinery, roads and airfields. 15 years Latin American experience dealing with government officials and national personnel. Fluent Spanish. Location desired overseas but will relocate anywhere. R. Salmon, RFD Petersburg, New York. Tel. Hoosick Falls 1159-R.

(Continued on following page)

SALES MANAGER WANTED

A leading Middle West manufacturer of road building and mining machinery wants a General Sales Manager. The manufacturer has two main product lines sold through domestic distributors. Experience in the sales management of road building, construction and/or mining machinery is essential. Duties require about 35% travel in the United States and Canada. Send complete personal data and detailed experience resume with initial correspondence. All inquiries treated in strict confidence.

P-5161, Engineering News-Record 520 N. Michigan Ave., Chicago 11, Ill.

• POSITIONS WANTED
(Continued from preceding page)

Land Development Engr.—Heavy experience in design and construction of sub divisions including land use, utilities, roads, golf courses, etc. seeks administrative position with developer or contractor. Recently returned from South America and am free to relocate. Age: 33, married. PW-5115, Engineering News-Record.

Manager of Construction—twenty-five corporate engineer in charge of profitability analysis, cost estimating, scheduling, construction supervision and cost control for major process industry projects. On-time completions, minimum costs, smooth start-ups. PW-5133, Engineering News-Record.

Construction Engineer, 38, Married. 12 years diversified experience in concrete and aggregate production, control and mix design. 3 years prestressed concrete, soils and foundations. Spanish speaking. Available Sept. 15 for foreign or domestic assignment. Resume on request. PW-5089, Engineering News-Record.

Construction Engineer—33, BCE, PE, 8 years field exp heavy construction. Wants to learn estimating, pricing, buying with small to medium sized contractor. N.Y.C. area. PW-5131, Engineering News-Record.

Project Manager, Sup't., Estimator Piping, Instrumentation, Mat'ls. Handling, Heavy Industrial. Aged 43, 20 years in any phase invitation to turn key. Seeks management spot with future unlimited. Prefer West of Rockies. PW-5023, Engineering News-Record.

Purchasing Agent now with major firm seeks relocation. Extensive background in estimating, supervision and project managership. Top responsibility required. Will come for interview. PW-5024, Engineering News-Record.

Bridge, Structural & Highway Draftsman. Eventually can be designer. 10 years experience. (Civil Engineer in old country). PW-5028, Engineering News-Record.

Engineer desires to represent manufacturer or other company serving construction industry in western U.S., part or full time. Planning eastern visit in early Sept. to see interested parties. PW-5098, Engineering News-Record.

Civil Soils Engineer, B.S.C.E., M.S. Soil Mechanics, Registered N.Y., 36, ten years experience in administration, reports, foundations, civil and structural design. Seeks challenge. PW-5141, Engineering News-Record.

Executive, Manager, Engineer (General), age 47, BSCE, 25 yrs exp. all const. categories, 10 yrs as Deputy Installation Engineer at large Air Force Base directing the Maintenance, Operation, Programming, Planning, Engineering, Construction, Management, Fire Protection, and Crash Rescue activities. Desire to locate with aggressive company having gov. contract for similar responsibilities state side or overseas. Available September 30, or sooner. Resume furnished on request. $20,000 + exp. PW-5087, Engineering News-Record.

Construction Supt. General Construction. PW-4482, Engineering News-Record.

Engineering Executive. Wide industrial, chemical and civil experience; all phases administration and management. Organize and direct large design jobs or work in consulting and exec. asst. capacities. Proposals, reports, contracts, liaison, trouble shooting, P.E. in 5 States. PW-4725, Engineering News-Record.

Construction Engineer, Contract Administrator—BSCE—age 25—four years experience in engineering construction—supervision, inspection, contract administration—prefer foreign assignment—military obligations completed—available 1 November. PW-5163, Engineering News-Record.

Civil—Structural Engineer, degree. 15 years design experience in all types of structures. Reinforced concrete, structural steel, prestressed concrete. Desire a position. Available at a notice. PW-5146, Engineering News-Record.

Executive: Excellent legal-construction background, exp. all phases construction field & central office, administrator, mgr, atty, govt contracts, employed, female. PW-5145, Engineering News-Record.

Superintendent 41, BSCE., Reg. Sound experience in general construction, estimating and layout, office work. Want opportunity with medium size progressive organization. PW-5157, Engineering News-Record.

• POSITIONS WANTED

Project Manager or Superintendent, 25 years experience in highways and airfields const. Capable and qualified to do your job, preferably dirt. PW-5150, Engineering News-Record.

Project Manager-Grad. C.E., 17 years experience general and heavy construction, desires position in southwest or south. PW-5149, Engineering News-Record.

Civil Engineer—B.S.C.E.; P.E.; 32; 11 years design and administration experience in Highway Field. Presently employed. PW-5164, Engineering News-Record.

Project Manager-Engineer Executive—B.S.-C.E.-B.PH.-51. Feasability reports, Civil Engineering Surveys, Highway location and design—Heavy construction management and supervision. Available immediately. Domestic or foreign. PW-5196, Engineering News-Record.

Civil Engineer; BS, MS, LLb, PE; M. ASCE. Age 36, government employee. 12 years diversified engineering & construction experience, military & government. Spec. training & experience in estimating, cost engineering; contract admin., negotiation, litigation. Desire permanent position with heavy const. firm or project supervision with A-E. PW-5197, Engineering News-Record.

Young construction man seeks position with contractor in Michigan or N. Ohio area. Age 29, BSCE. Desire more opportunity for advancement and responsibility. Background: earthmoving, paving, sewers & bridge design. PW-5159, Engineering News-Record.

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Safety Engineer—10 years safety experience in heavy construction including AEC and steam plant construction. Free to travel or relocate. PW-5148, Engineering News-Record.

Arch. age 32, govt. GS-12, best ref., desires position overseas with arch., engin., or contract. firms. PW-5147, Engineering News-Record.

Project Engineer—BCE, MCE, 15 yrs Solid experience Far East, Europe, Domestic—In charge all civil, structural, architectural works. Directing, administrating, coordinating, supervising projects, office and field construction. Overseas only. Resume at request. PW-5198, Engineering News-Record.

Materials Engineer, 30, MSCE, PE 5 yrs. Highways and Concrete, all phases design, testing, control, seeks position. PW-5190, Engineering News-Record.

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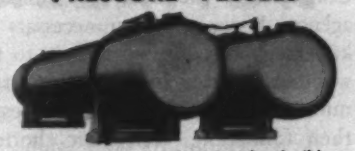

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Unnecessary Roughness

CONGRESSIONAL LEADERS did the nation a disservice last week when they permitted Representative Emanuel Cellar of New York to steer his personal feud with the Port of New York Authority into a citation for contempt of Congress by the three top officials of that two-state agency. It was wholly unnecessary to seek by this head-knocking procedure an answer to the basic question of whether Congress has a right to interfere in the affairs of multi-state agencies after Congress has once approved their formation. There are shorter, more orderly and more statesmanlike ways to secure the Supreme Court ruling that is required.

Now, however, the travesty has been permitted. If, as is remotely conceivable, the Court should rule that there is no legislation that prohibits Congress from interfering in the affairs of interstate agencies, Congress should, for its own good name and in the national interest, enact a non-interference policy. It would be a sad blow to progress if these multi-state agencies, which build so many facilities that are otherwise almost unattainable, should have to justify their every action before a Congressional committee. Such harassment could well destroy their effectiveness.

Procrastination Not Harmful

FEDERAL AID FOR SCHOOLS has been hotly debated in Congress for the past five years, and no legislation has yet resulted. Such procrastination could be criticized if it had occurred in the face of a pressing need for federal aid. But there has never been convincing proof that such a need existed. Moreover, even while dire consequences were being predicted if federal aid were not forthcoming, school construction has gone ahead fast enough to meet the growing needs of our expanding population.

The fact is that the procrastination on providing federal aid has not been without value, since, during the hiatus, the states and their cities and school districts have demonstrated that they can discharge their educational responsibilities without outside help. This is as it should be except for conditions of real emergency. It is also as it should be if schools are to be provided at the least cost to the local taxpayer. The alternative of sending his tax money on a round-trip to Washington is bound to be more expensive.

Whether or not some form of federal aid may yet be offered, it is clear that school construction has not lagged dangerously as yet. More than 60,000 classrooms have been added each year since federal aid began to be debated—and this is the same average that the U. S. Office of Education says must be maintained for the entire 1960 decade. It is true that this federal agency estimates that the average will have to be attained by building faster during the first five years of the decade—80,000 classrooms a year, tapering off to 38,000 annually later. But it is not unlikely that local governments can meet this challenge, too, without federal aid.

In any event, if Congress did the improbable and enacted a school aid bill before it adjourned, the aid provided would not change the picture greatly. The only bill that has got so far as House approval requires state matching of a $325 million annual federal grant. This $325 million is just about 10% of the cost of the 60,000 classrooms needed as an average, and only 8% if 80,000 rooms are to be added in each of the next five years. It thus does not make too much difference that Congress continues to procrastinate on a school bill. The overwhelming responsibility for meeting the nation's school construction needs will continue to rest with state and local governments.

The Steinman Contribution

DAVID B. STEINMAN HAS DIED and left the civil engineering profession a priceless legacy, but also a question to ponder. As posed in an ENR cover story just last year (ENR June 25, 1959, p. 57): What measure for this man?

Dave Steinman was a man of many talents. He was a keen and able engineer with deep professional feelings, an outstanding mathematician with an insatiable scientific curiosity, a lover of the arts, humanitarian, writer, poet and teacher. And he exercised all these talents for the benefit of the engineering profession. Unfortunately, his great accomplishments were sometimes clouded by his personality, which frequently made him the center of controversy.

Just as the late Frank Lloyd Wright alienated fellow professionals by his egotism and outspoken criticism of them, D. B. Steinman irked some of his contemporaries by self-praise and self-promotion. But as architect Wright succeeded in rousing the feelings of professionals and laymen alike, engineer Steinman stirred the imaginations of fellow engineers, non-engineers, engineering students, and even school children, whom he reached through his lectures and his writings.

To answer the question as to his real contribution: He personified civil engineering to thousands, perhaps millions, around the world. In their eyes he was one of the greats; to many he was the greatest. Civil engineering gained through the years from the untiring efforts of this product of New York City's lower east side to project himself to others.

Dave Steinman's career ended last week. His bridges, which will remain as great monuments to him, would probably have been designed by others if he had not come along. But as an effective interpreter of his profession to the public he was more nearly unique. He leaves behind too few to fill that important role.

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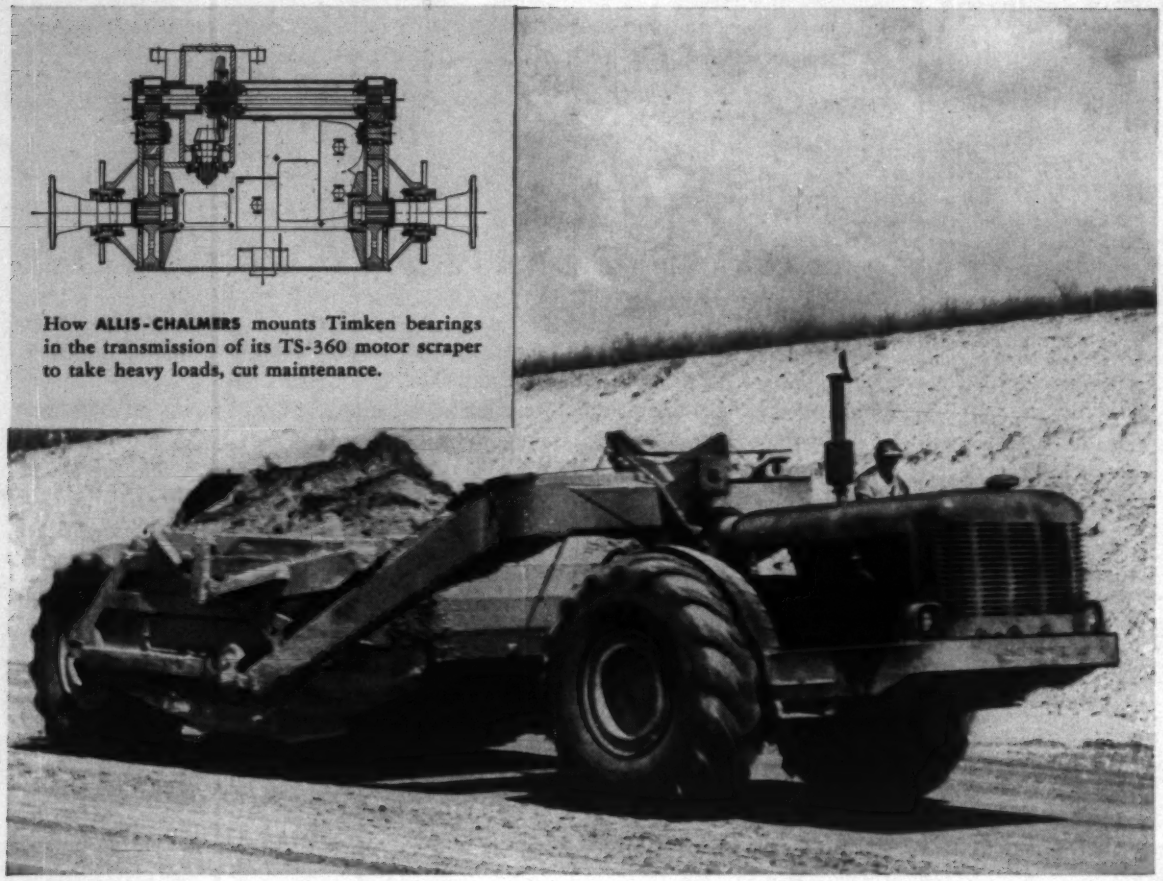

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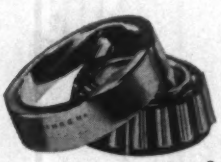

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